Rating The 1982 Videgame Cartridges

electronic GAMES

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1983 BUYERS GUIDE

From the Publishers of ELECTRONIC GAMES

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- COIN-OPS
- STAND-ALONES
- COMPUTER GAMES

OF THE YEAR!

THE PLAYERS GUIDE TO ELECTRONIC MAZE GAMES

TEST LAB: NO NONSENSE HARDWARE EVALUATIONS

THE GAMERS GUIDE TO MICRO COMPUTERS

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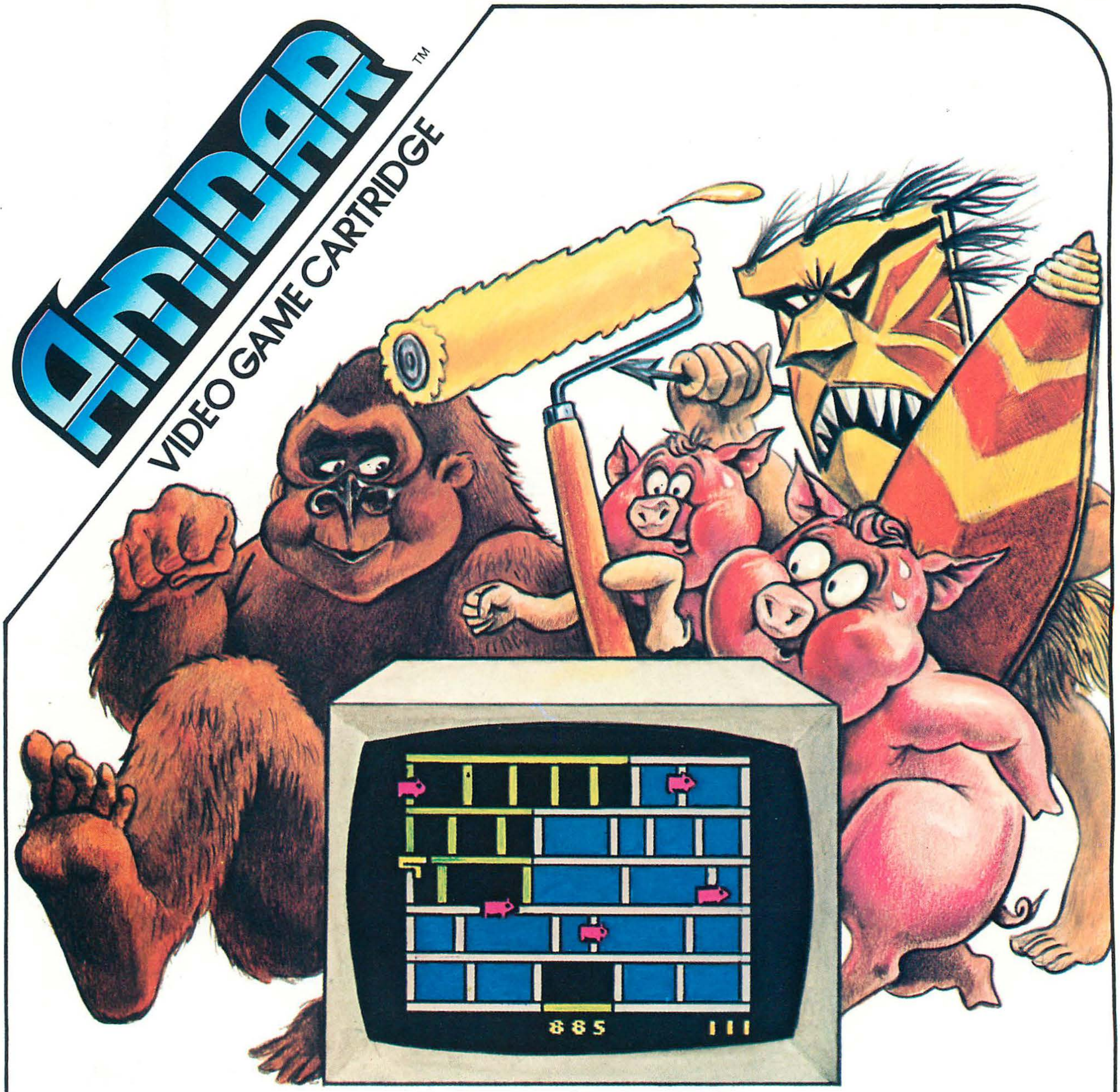

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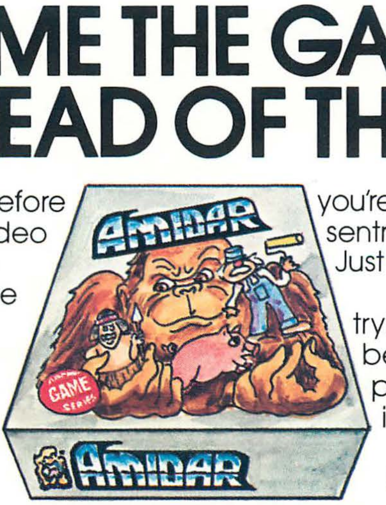

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electronic GAMES BUYERS GUIDE

INTRODUCTION........................4

A few words from the editor about **The Electronic Games 1983 Buyer's Guide.**

RATING THE 1982 VIDEOGAMES..........................7

More new videogames appeared in 1982 than in all previous years combined. Here's the lowdown on some of the hottest cartridges around.

THE PLAYERS GUIDE TO ELECTRONIC MAZE GAMES.....................37

If you think **Pac-Man** *is the only a-maze-ing game, this survey for labyrinth lovers can open a whole world of maze mania!*

RATING THE 1982 COMPUTER GAMES...........46

The quality of computer game software took a mighty upward leap last year. **EGBG** *takes a look at some of the outstanding programs which made their debut in 1982.*

THE GAMERS GUIDE TO MICROCOMPUTERS...........43

Thinking about buying a microcomputer? This handy guide can help you sift through the many available systems.

RATING THE 1982 STAND-ALONE GAMES......74

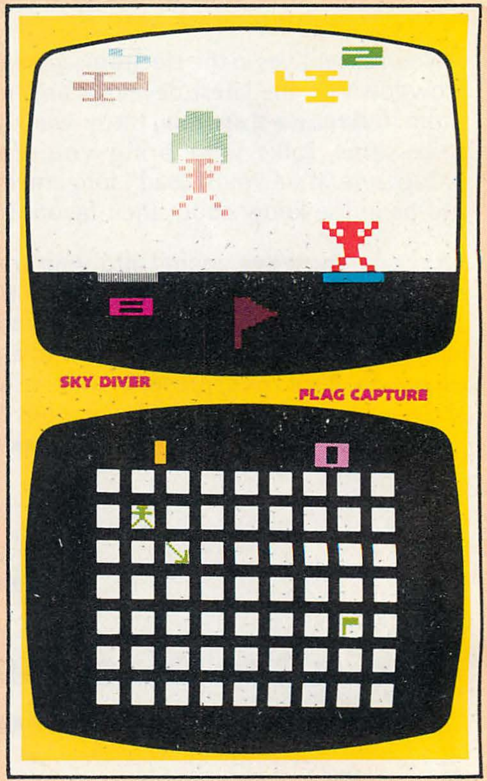
Sophisticated gamers used to turn up their noses at the thought of stand-alones. Now technological progress is enabling manufacturers to turn out fascinating tabletop and hand-held electronic devices.

RATING THE 1982 COIN-OPS...........................92

Pac-Man, Turbo, *and so many other quarter-snatchers made the whole country arcade-happy last year. Here's our view of some of the best of the new pay-for-play machines.*

SCORE MORE ON THE MOST POPULAR HOME ARCADE GAMES..........................102

Everyone knows it's fun to play electronic games, but it's even more fun when your scores keep mounting. Here's how to play the home arcade hits more skillfully.



THE TECH FILE...............120

Hear our technical expert's evaluations of some of the most significant game-oriented hardware.

ANSWERS TO THE MOST FREQUENTLY ASKED GAMING QUESTIONS....128

The Game Doctor knows the electronic gaming hobby inside and out, so here's a chance to find out some information you may have been searching for.

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Introducing... the ELECTRONIC GAMES 1983 BUYER'S GUIDE

The world of electronic gaming hit all sorts of new highs in 1982 as innovative hardware and software products of every description hit the marketplace with the force of a laser bomb. The number of videogame systems doubled to eight, computers like the Commodore VIC-20 and Atari 400 began to find the mass audience everyone's been predicting for ages, stand-alones attained new levels of sophistication and the nation's commercial arcades raked in more than $5 billion in quarters.

All this activity can be something of a mixed blessing if you're a prospective buyer. With so many new products, it can be tough to separate the good from the bad and, even more important, figure out which of the many available options is best for your particular situation.

The **Electronic Games Buyer's Guide** is intended to ameliorate this situation. On the next 140 pages, you'll read about—and see—most of the new games that have appeared during the last 12 months. Armed with solid information, consumers will then have something upon which to base some pretty important buying decisions.

Our **Buyer's Guide** is a basic resource, but not the only one. So much happens so fast in this hobby of ours that any compendium can only cover a fraction of the field, no matter how many pages it has. So if you want to keep up with the latest developments, we recommend *Electronic Games*, the original monthly magazine devoted exclusively to the world of electronic gaming, and *Arcade Express*, the biweekly newsletter that gives you the latest news and reviews hot off the press.

MONEY-BACK GUARANTEE! SEE PAGE 3

5 EXCITING NEW GAMES!

US GAMES NEWS

EARTH DOOMED?

US GAMES
For use with ATARI Video Computer System or SEARS Tele-Game
Space Jockey
VIDEO GAME CARTRIDGE
1025
VC 1001
16 game variations
NEW Improved Video Graphics

Can you beat the aliens at game level 16?

LONE SPACE JOCKEY FIGHTS BACK!

With every human attack weapon captured by alien forces and turned against Earth, surrender seemed inevitable... until you captured one of the alien attack saucers!

Screaming through the atmosphere, you cut forward and back, up and down to escape relentless alien firepower. You blast back, firing directable missiles into alien planes, tanks, and other obstacles.

Can you beat the aliens with their own machine? You can... if you're fast enough, if you're accurate enough, if you're good enough.

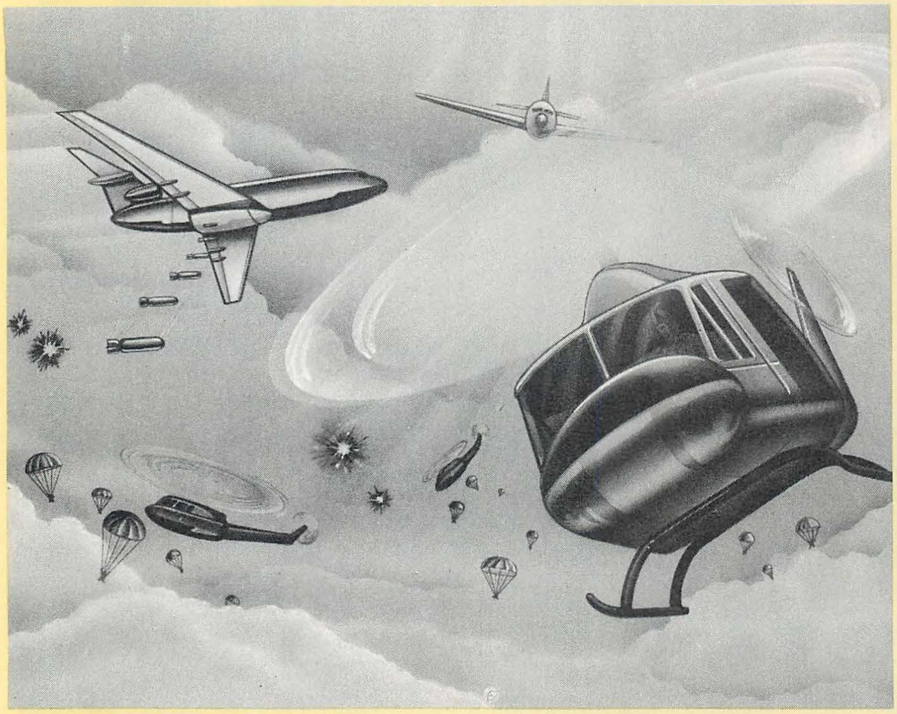
★ ★ ★

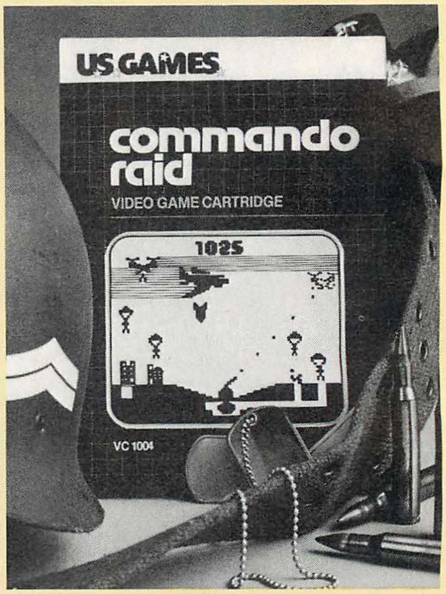
ANDROID RAIDERS ATTACK!

HOT GUNNER COULD SAVE CITY!

With attack choppers dropping android commandos and fighter-bombers delivering payload after payload, our city would be destroyed by now if it weren't for one brave gunner... you.

Only your quick eye and quicker trigger finger can hold off wave after wave of android parachutists. Only your skill can keep them from tunneling under the city and taking you out. The game is Commando Raid, and you're the city's last hope.

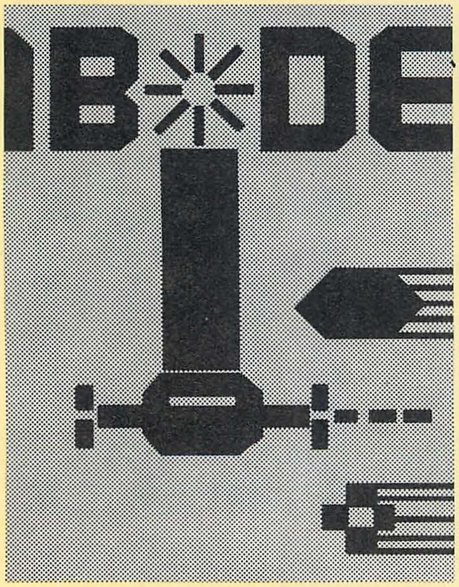



US GAMES
commando raid
VIDEO GAME CARTRIDGE
1025
VC 1004

The action gets faster with each commando attack wave!

★ ★ ★

ZAPPER A FAST BLAST!



HOT GAME CHALLENGES THE BEST!

Just when you think you've thought fast enough, you've got to think faster! You've got to fire left and right to zap deadly asteroids... one hit by the Doomsday asteroid and your saucer blows!

But that's just defense! To win you've got to fire overhead with incredible skill to blast away the letters of the alien's language. And it will only work if you follow the computer's lead. Can you beat Word Zapper through all 24 games? Can anybody?

S GAMES
ATARI
word zapper
VIDEO GAME CARTRIDGE
VC 1003
24

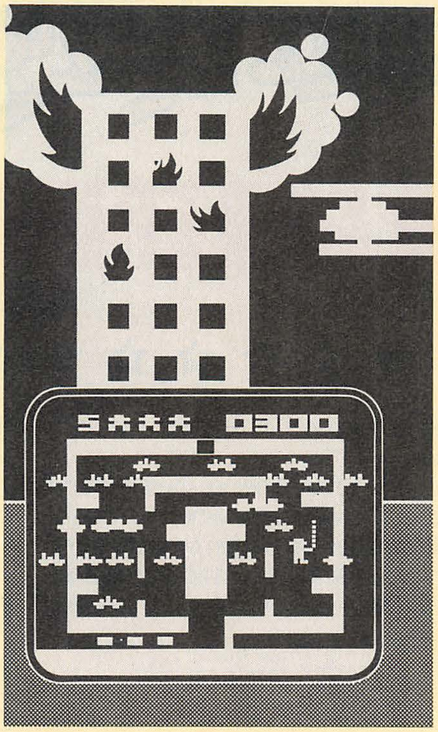
Why is Ronald Evans smiling? Did he beat the zapper?

FIERY DISASTER AVERTED!

BOLD FIREFIGHTER SAVES HUNDREDS!

It was the worst fire you'd ever seen... a high-rise going up like a torch. With a different fire-filled maze on every floor. And hundreds with no way out... unless you could get them out to the rescue chopper.

It's a race against time and the fury of fire that can destroy innocent occupants... and you! You're the firefighter... do you have the skill and strategy it takes to beat Towering Inferno?



US GAMES
For use with ATARI Video Computer System or SEARS Video Arcade
towering inferno
VIDEO GAME CARTRIDGE
0123
NEW Improved Video Graphics

Relive the movie in this challenging maze game!

★ ★ ★

MISSING PERSON MYSTERY SOLVED!

ENTIRE FAMILY CAUGHT UP IN SEARCH.

US GAMES
For use with ATARI Video Computer System or Sears Video Arcade
sneak'n peek
VIDEO GAME CARTRIDGE
VC 1002
25
NEW Improved Video Graphics

Four different rooms with lots of sneaky places to hide.

It seems simple enough... somebody disappears, and you find them. But this is a spooky video world, with electronic hidey-holes that happen where you least expect!

You can seek a friend or family opponent... or take on the computer! You've got to beat the clock, or your Sneak 'N Peak opponent has you dead to rights!

★ ★ ★

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Rating the 1982 VIDEOGAME CARTRIDGES

by Bill Kunkel and
Frank Laney Jr.

The worst thing about **Quest for the Rings** is its gilt-edged price, which is considerably higher than for any other videogame cartridge on the market. The best thing about this fantasy adventure for one-to-three players is that it is worth every single dollar of the asking price.

Quest for the Rings shines forth as a landmark in the history of electronic arcading. It's almost as much of an advance over existing videogames as they are an improvement over original **Pong.** For the first time, designers have blended elements of the board game and videogame. And since humans perform some of the tasks—like moving the heroes around the colorful map that comes with the cartridge—that the Odyssey^2 console would otherwise have to handle, **Quest for the Rings** is a giant step ahead of other videogames in richness and complexity.

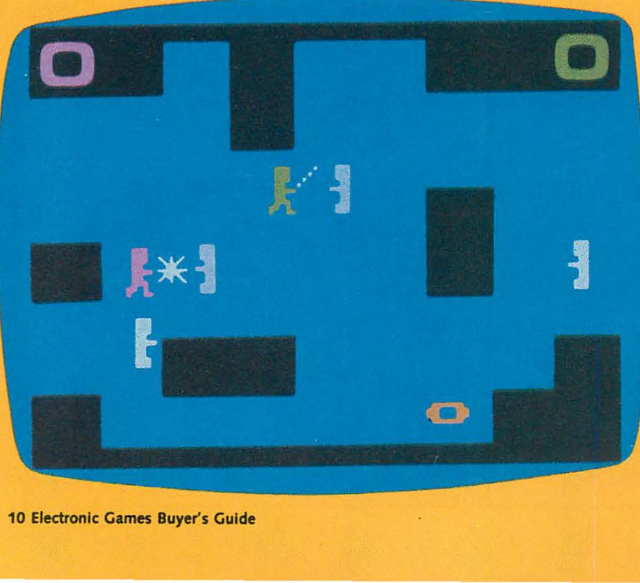
To win, a pair of heroes must find and capture 10 magic rings, which the dreaded Ringmaster has hidden beneath some of the 23 castles scattered across the landscape. The champions of good must also fight—or at least out-maneuver—the various creatures the Ringmaster has delegated to guard the mystic treasures.

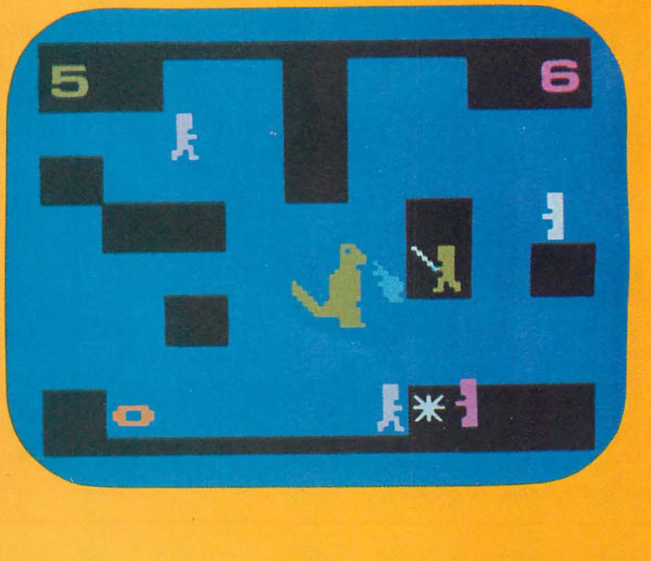
Fight Evil with Quest for the Rings!

This sketchy description barely hints at the thrills awaiting Odyssey^2 owners who decide to go adventuring in this dark realm of magic and mayhem. **Quest for the Rings** offers so many strategic and tactical choices and involves so many variables that even finicky arcaders will happily play and play again.

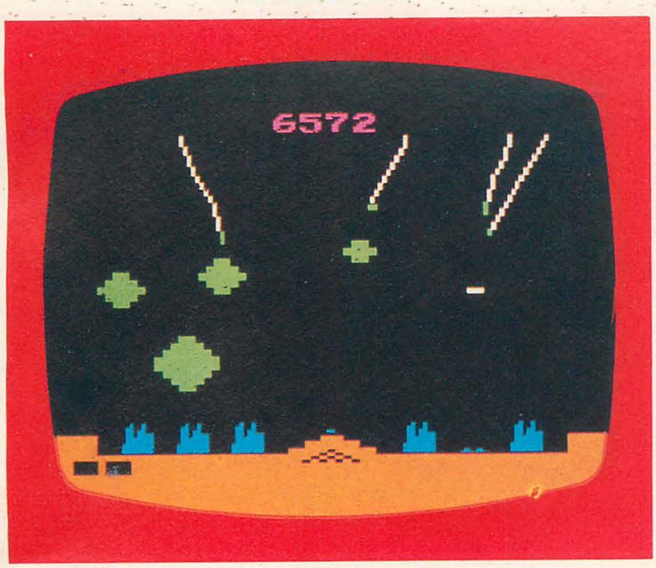
This game gives new meaning to the word "programmable." Before the action even starts, one player assumes the role of Ringmaster and hides the precious baubles.

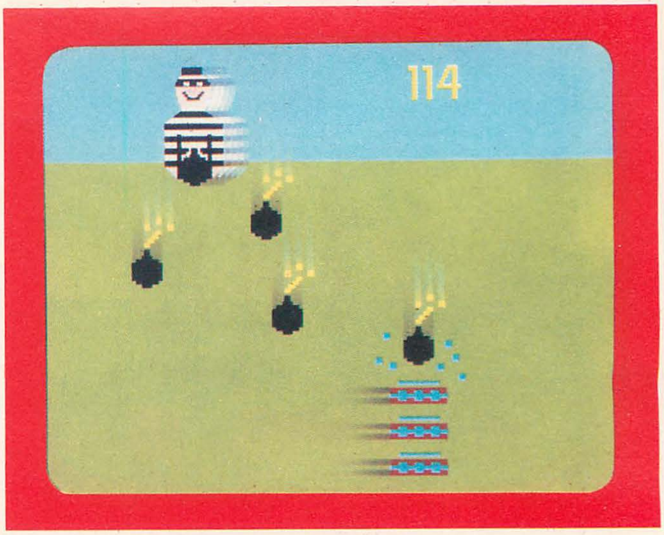
The set-up procedure is fairly simple. Each ring is symbolized by one of the small round wooden tokens which fit neatly under the larger ones that represent the castles. At the same time, the Ringmaster positions the tokens for the heavy-duty monsters generally under the castles where the rings are buried. The castle counters are two-sided, with the reverse indicating which type of labyrinth lies beneath the stout stone battlements.



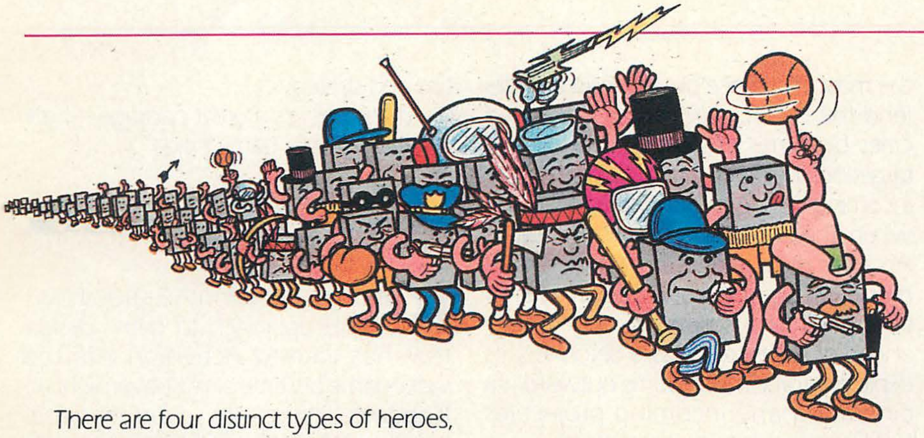


MISSILE COMMAND





KABOOM



There are four distinct types of heroes, each with special advantages. The warrior wields a magic sword, the wizard casts spells, the phantom slips wraithlike through walls of solid rock, and the chameleon uses a mystic cloak to become invisible and undetectible to the monsters.

The human players may each choose any of the four heroes. All combinations are possible, but gamers must take care to select champions that can work together as an efficient team. In **Quest,** players must cooperate to achieve the common goal of collecting the 10 rings. (The third player continues to function as the Ringmaster throughout the game, occasionally using mental powers to "possess" one of the do-gooders and cause the teammates to battle each other. If there are only two arcaders available for a session of **Quest**, the Ringmaster abandons that role after setting up the game and becomes a hero. Naturally, the other hero has full charge of directing the team around the map.)

The legions of evil include quite an awesome assortment of nasties. Orcs and firewraiths are found in every dungeon visited. The former are diminutive, but no-less-cruel ogres, while the latter are the enslaved souls of past victims that can kill the living with a mere touch. The Ringmaster's magic also makes both types of monsters closely resemble the appearance of the heroes, though the creatures have characteristically shambling walks. The warrior can easily dispatch such foes with the enchanted blade, and the wizard's spell will keep them at bay, too.

The so-called "nightmare monsters" are an entirely different matter. The spydroth tyrantulus is a spidery behemoth of utter evil. It loves to eat living flesh, which it believes will extend its own lifespan. The spydroth moves somewhat slowly from side to side, but it will pounce on an unwary adventurer from above in a split second. Sword and spell cause it to back off temporarily, but the spydroth cannot be permanently killed.

Doomwinged bloodthirsts are bestial vampires who impale victims on their enormous fangs and drink their blood. They back off, flutter and fall when hit by the sword or a spell, but they soon return to the attack unharmed.

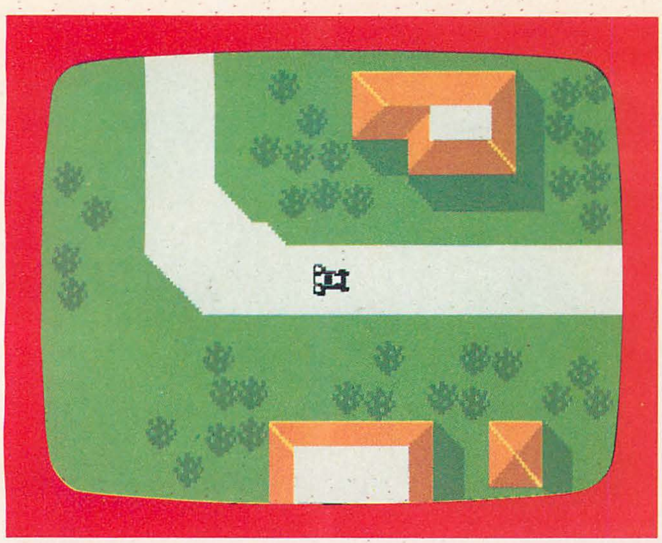
What would a fantasy adventure be without fire-breathing dragons? **Quest** has three of them—Scortha, Goldfang and Mythrog—who will give the heroes a rough time, indeed. Waving the magic sword will make a dragon turn away and the wizard can stop the flame breath with a spell, but nothing deters these supermonsters for long. Running and hiding is often the best strategy when a dragon stands between the heroes and their prize.

The actual battles take place within underground dungeons constructed by the Ringmaster and equally malevolent allies. There are four types, though each individual labyrinth is randomly generated by the Odyssey^2 and is totally unique.

Dungeons were built by men but subsequently captured by the Ringmaster. The Crystal Caverns have invisible walls built by the Wind Wielders at the Ringmaster's command. These places are quite dangerous, because the monsters automatically sense the movement of the unseeable barriers. The walls in the Shifting Halls move every few seconds, frustrating the heroes' attempts to get their hands on the ring. The Infernal Infernoes are towers of lava kept molten by the Ringmaster's sorcery. The infernoes are particularly tough on the phantom, since these elusive heroes will be incinerated if they try to pass through the redhot walls.

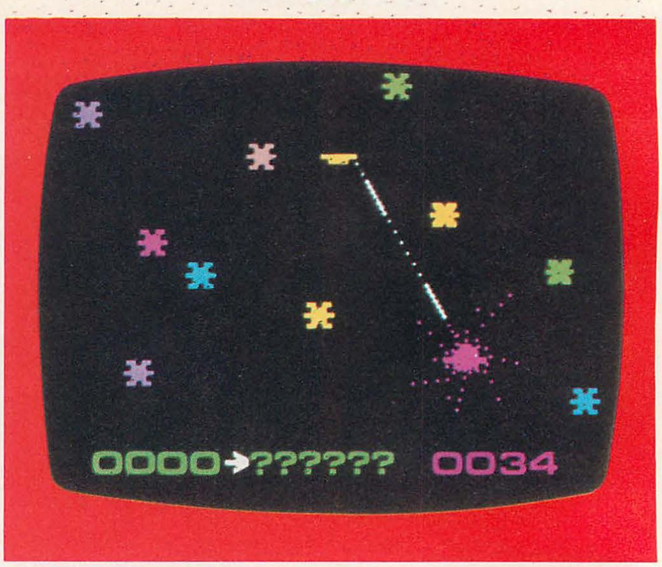
Befitting its overall excellence, **Quest for the Rings** is also distinguished by magnificent animation. During the first few games, more than one arcader will be tempted to surrender to the monsters just to watch them cavort across the screen.

Quest for the Rings is, quite simply, the most innovatively designed video-



AUTO RACING

UFO



game of all time. Now that Odyssey² designers have started to tap the potential of the system's keyboard, electronic arcaders can only drool with anticipation over the prospect of an entire series of such marvelous cartridges.

* * *

Missile Command (Atari/CX-2638) represents the most successful conversion of a commercial arcade supergame to the more limited confines of a home programmable system. Devotees of the coin-op classic may miss the blurring speed of that version's track-ball controller, or the incoming fragmentation missiles, but virtually every other element of this Atari masterpiece has made the journey to the VCS format.

Gamers still launch anti-missile missiles from the command center, positioned in the middle of the six cities under its protection at the base of the playfield. Suddenly, the night sky is streaked with incoming fire, caused by luminous waves of attacking missiles. An alien assault has begun and grows faster and deadlier with each successive wave. Armed with three, ten-load rounds of ammunition, the human commander uses the joystick controller to target and launch his missiles in an attempt to establish a protective umbrella of defensive fire. Cities are destroyed when hit by enemy missiles, and at least one must still be standing in order to keep the game alive. Scoring 10,000 points causes one previously-annihilated city to rise from its ashes.

Strategically, the cities to the immediate left and right of the command center are the most vital. Since players must also defend the center, maintaining these two cities becomes absolutely vital. When targeting, the trick is to aim not where the incoming missile is, but where it will be when the anti-missile missile detonates. Arcaders must aim so that the defensive missile will explode along the same trajectory its target is following, only slightly ahead of it. Once a missile detonates, its explosive force mushrooms outward, incinerating any incoming projectiles luckless enough to make contact.

Missile Command is a realistic space war game—with a scenario designed to heighten the effect. Unlike, say, **Space Invaders**, in which the alien invasion is highly symbolic, it takes little imagination to picture yourself actually within the imperilled command center, frantically launching missiles and grimly awaiting the next assault.

Atari has graced this exciting cartridge with truly striking cover art and some real innovation in terms of play variation and packaging. Rather than offering hundreds of play options, **Missile Command** game numbers change only the skill level at which play begins. Game 1 starts off with the very slow first wave, which has little point value. Subsequent games get going with the second, third—or even thirteenth—wave, where the action is much faster and the missiles are worth much more.

Game No. 17, however, is something special. It's a super-simple version for beginners that should be perfect for younger arcaders, or adults who can't stand making fools of themselves in front of the kids. The instruction booklet not only explains the game, but even offers play tips and strategy.

Altogether, it's a great package—with an even greater game inside.

* * *

Kaboom (Activision/AG-010) shows off the approach to game design that has vaulted Activision into the videogame big time almost overnight. In **Kaboom**, appropriate sound effects are combined with streamlined graphics and fluid animation on a par with the Saturday morning cartoon shows. Even a novice can learn this one in about four seconds, and pre-schoolers and grizzled videogame veterans will be equally delighted by it.

A masked malefactor, who lugs around an inexhaustible supply of ammunition, races back and forth across the top of the playfield, lighting fuses and tossing bombs. The on-screen character drops the explosives in waves. He throws more bombs in each succeeding wave, and his speed keeps increasing until he's lobbing a fusillade of 13 bombs per second. Thankfully, **Kaboom** provides an automatic pause so that players can catch their breath between rounds.

The player uses a paddle to move a stack of three water buckets, which are piled one above the next in a vertical column, hoizontally along the bottom of the field. The idea is to prevent any bombs from hitting outside one of the buckets. If one gets through, it detonates every other explosive device in view in a wild chain reaction.

The game takes away a bucket after each miss, but scoring 1,000 points restores a lost tub if the arcader has fewer than three currently in play.

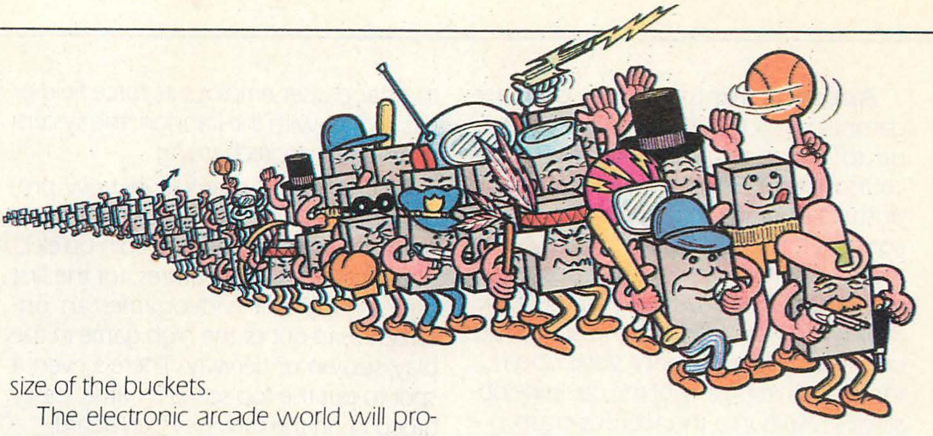
As a result of this rules quirk, **Kaboom** designer Larry Kaplan suggests sacrificing a tub just before reaching the 1,000-point milestone. After the explosion, the game resumes at a speed one notch slower, giving the player a bit of a breather. And once the score passes 1,000, the machine restores the lost bucket, anyway.

Kaplan has jokingly described his creation as "mindless." It isn't, but it is also not a game in which precisely lining up each catch can be a viable strategy.

Kaboom is impressionistic. When the speed escalates to 13 bombs per second, going with the flow must be the order of the day. Sweep back and forth across the screen, and try to get a sense of the pattern. Let your natural arcader's instincts take control of movements.

Kaboom is infinitly more enjoyable than the commercial arcade game upon which it is loosely based, **Avalanche.** Kaplan's delightful electronic artwork is the main reason. Fuses sizzle, bombs detonate in a beautiful display of video pyrotechnics, the water in the buckets splashes when an explosive lands, and the bomber's habitual frown turns into a smile whenever he slips an incendiary device past the defender.

Scoring in **Kaboom** follows the new trend toward lower totals. Those who customarily make the **Space Invaders** scoreboard roll over a dozen times a game will be hard pressed to top 3,000 in this change-of-pace cartridge for the Atari VCS. Setting the difficulty switch to "A" gives those who've mastered the game a fresh challenge by halving the size of the buckets.



The electronic arcade world will probably never witness a national **Kaboom** tournament, but the cartridge does provide a refreshing change from skill- and strategy-intensive games. When you're tired of blasting asteroids or invading aliens, it's really quite a treat to enter the **Kaboom** universe for a little game of catch.

* * *

Auto Racing (Intellivision/1113) will pleasantly surprise arcaders who don't usually like race games. And those who generally do like electronic motor sports cartridges will undoubtedly greet this new entry like manna from heaven.

Graphics set **Auto Racing** head and shoulders above every other cartridge in a similar vein. The playfield displays an overhead view of whichever of the five available tracks is in use. Instead of cramming a whole course into the screen, however, Mattel designers wisely decided to have the screen scroll so as to show only a small segment of the track at any one time.

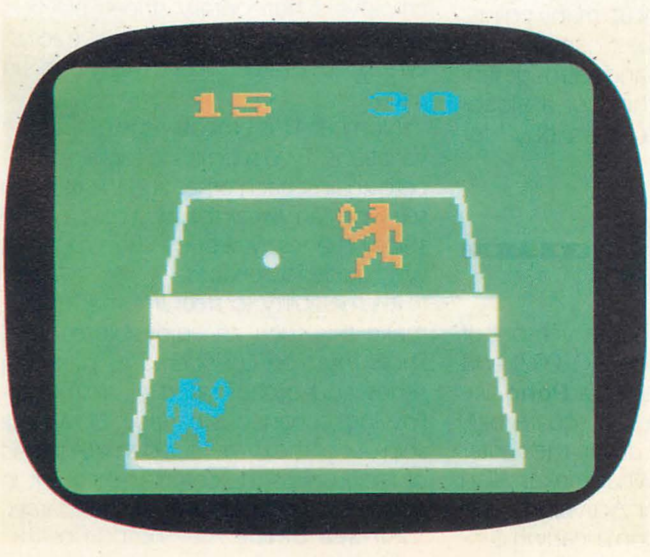
The racers are rendered in realistic detail, which does much to enhance the visual impact of the game. This, combined with the limited view of the road, produces a more intensively involving racing experience.

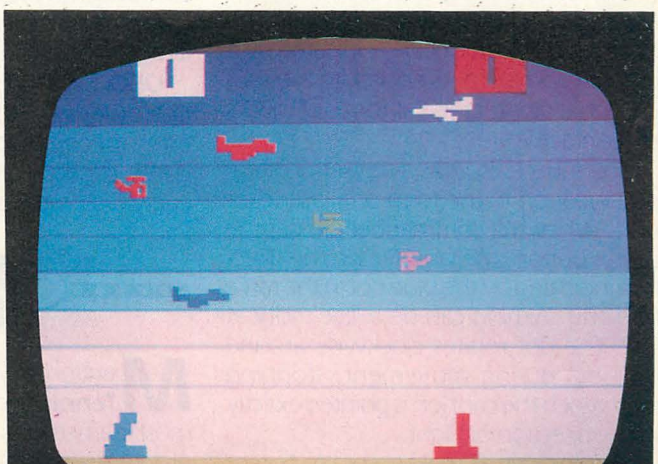
Audio trimmings aren't neglected, either. Gamers drive their cars to the accompaniment of the roar of the engine and the squeal of the brakes.

There are five different colored autos that offer a choice of four combinations of top speed, acceleration and cornering ability. The tan and blue cars are exactly alike, so that drivers of equal skill can race identical cars head to head.

Although two can play at the same time, **Auto Racing** is even more fun as a solo competition against the clock. In the two-player version, the computer must stop the action whenever one car gets a sizable lead over the other, or the two autos could not be shown on the screen simultaneously. The driver of the racer in front gets one point, and the Intellivision automatically re-starts both vehicles at the last previous checkpoint passed. This breaks up the flow of the action somewhat. Zipping through five laps in the solitaire version may prove more satisfying to many arcaders.

TENNIS





AIR-SEA BATTLE

Auto Racing is not one of those games in which the driver merely winds up to top speed and takes the entire course flat out. Braking, accomplished by pushing a button on the side of the hand controller, is absolutely necessary. The trick is to slow down as little as possible in the turns without spinning off the track. Running off the road into the grassy ruts on either side will greaty slow down a racer, and hitting any of the trackside obstacles results in a thunderous crash.

Because of the wide choice of cars and courses, **Auto Racing** will challenge players of all levels of ability. It's easy to handicap the more proficient drivers by giving them the weaker cars, while a poorer player will get a real lift from using one of the racers with good cornering ability.

* * *

The insidious thing about **UFO** (Odyssey^2/9430) is that a new round starts within seconds after the previous one ends. Your Federation star cruiser has no sooner fallen prey to a marauding UFO than a new Federation saucer pops onto the screen.

When a game is as delightfuly addictive as **UFO**, such an auto-start feature may pose a health hazard to more compulsive arcaders.

As commander of an Earth Federation star cruiser patroling a perilous sector of deep space, the gamer must battle three distinct types of UFO's. Random ones drift aimlessly through space, hunter-killers home in on the Federation ship and enemy light-speed starships fire computer-guided missiles.

Which isn't to say that the star cruiser is helpless. The Federation ship is surrounded by a force field—indicated by a ring of little blue dots encircling the saucer—that disintegrates all forms of UFO's on contact.

The saucer also has a powerful offensive weapon in the form of a laser cannon. When the commander presses the action button, the laser fires in the direction indicated by the blue dot in the force field ring. Aiming can be a little tricky at first. The dot rotates clockwise around the ship during movement, stopping only when the cannon is pointed exactly in the direction of flight.

The shield itself makes a pretty potent weapon as well. Any UFO explodes on contact with the shield, making ramming a useful and effective tactic.

There is a catch, however. Whenever the star cruiser employs its force field or hits a UFO with the cannon, the system shuts down for recharging.

UFO is a fine example of how programmable videogame cartridges can borrow extra touches from coin-op electronic games. **UFO** features, for the first time in any one videogame, an on-screen read-out of the high game in the play session underway. There's even a spot to put the top scorer's name, easily typed in on the Odyssey^2 keyboard.

If you like explosions, you'll love **UFO**. There are at least three different ones, plus an occasional strange hybrid the machine concocts to take care of extraordinary occurrences (like two hunter-killers, a light-speed star ship and the Federation saucer colliding at the same time).

Another fine use of graphics involves the homing UFO's. The majority of hunter-killers are created right on the playfield as a result of collisions between two random UFO's or the interaction of a random UFO and one of the missiles fired by the light-speed star ship.

Since random UFO's are worth only one point, hunter-killers count for three and the light-speed "banana boats" are worth 10, a lot of the strategy concerns chasing the more valuable targets while dodging the rest to avoid unnecssary recharging periods. The 10-pointers are particularly important.

The light-speed starships are lethal when approached from above or below, but they do have an achilles heel. The invaders can't fire horizontally, so the Federation ship is safe if it rushes at the light-speed craft from due East or West relative to its position on the playfield. The 10-point UFO's pose the greatest danger to the Federation saucer, but players who merely dodge them will find it mighty hard to mount up many points.

UFO is one of the best games in the entire Odyssey^2 library and seems destined to become something of a videogame classic. This is a "must buy" for every Odysssey^2 owner.

* * *

Mention a videogame verison of **Tennis** (Activision/AG-007) and most gamers will think of a **Pong**-like program—two paddles, a square ball, and the traditional line down the center of the screen. That's what makes Alan Miller's game design for Activision's version of video-Wimbledon a leading candidate for "game most likely to blow your mind."

Miller, who brought the trapezoidal "3-D" court to programmable videogames, elaborates upon his initial masterstroke with an even more intriguing idea: a shadow moves along the ground as the ball flies through the air.

The computer takes shots automatically, determined solely by the part of the racquet that strikes the ball. Hit the ball with the racquet's left side, right edge or center and it goes that way. The action button is used soley to serve, making Tennis a game of pure positioning. Each joystick controller moves one of the two realistically-rendered, on-screen players, and the playfield's three-dimensional effect permits total freedom of movement on the court.

One of the best designed, realistically styled videogames, **Tennis** unfortunately has been overshadowed by the game with which it was co-released: Laser Blast. In case you missed it, it is well worth a look. Highly recommended.

* * *

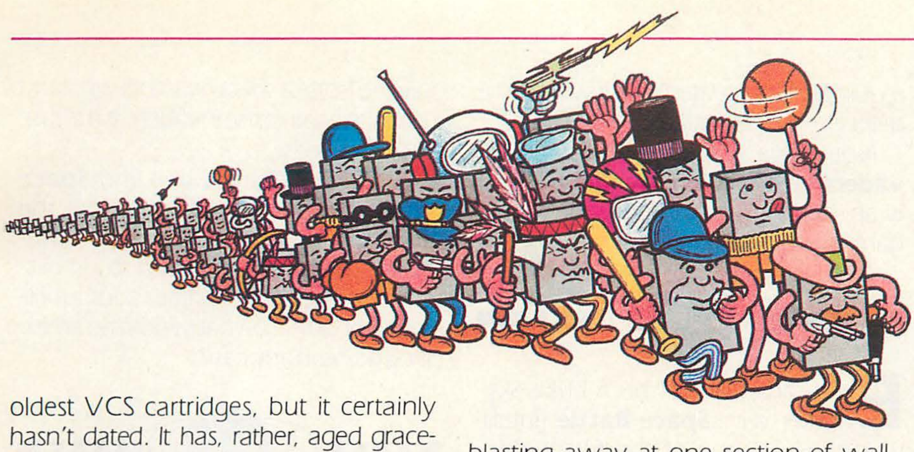
Air-Sea Battle (Atari/CX-2602), one of the earliest cartridges offered for the VCS, became an instant classic when it was released and is still a remarkably fine videogame today. Its introduction heralded the dawn of the age of true programmability, because it was the first title that departed from the ball-and-paddle contests that ruled the roost back in 1978.

Air-Sea Battle's numerous play variations allow gamers to fire anti-aircraft guns, launch torpedoes, pilot jets and steer battleships—all within a basic "shooting gallery" format. The program employs a horizontally striped playfield executed in pleasing shades of blue across which move targets like so many ducks in a row.

Number 11 is probably the best of the variations. Two submarine captains compete against each other and the clock to see who can wreak the most havoc in the shipping lanes by peppering passing ships with guided torpedoes.

It's the ability to steer the missiles that make this such an enjoyable contest. Shots must be considered as part of a series and orchestrated as a smooth-flowing, continuous barrage. Blowing a ship out of the water is worth little in and of itself, unless the commander is left in good position to shoot at the next target.

Air-Sea Battle may be one of the



oldest VCS cartridges, but it certainly hasn't dated. It has, rather, aged gracefully and is still one of Atari's outstanding software selections.

* * *

Breakout (Atari/CX 2622) has proven popular in every possible electronic game format from mini hand-helds to coin-op arcade machines.

Breakout is probably the most successful game developed from the ball-and-paddle formula introduced by **Pong**. In the basic game, players manipulate a horizontally movable paddle across the bottom of the playfield in an attempt to hit the ball against the seven rows of colored bricks near the top of the screen.

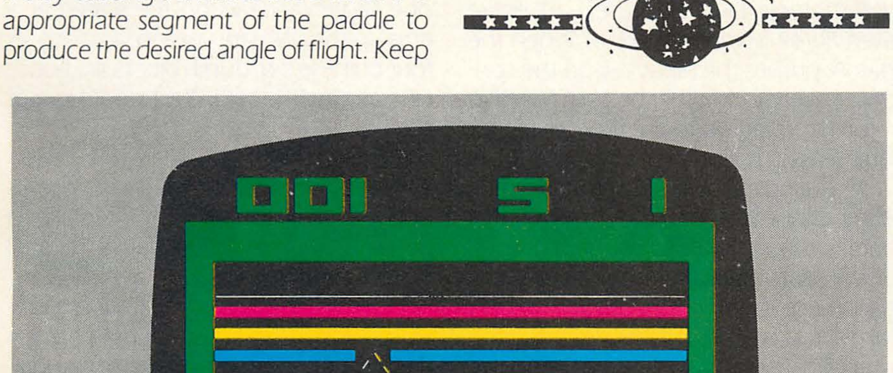
The ball removes a brick each time it smashes into one and then bounces back toward the paddle. Simple enough mechanics, to be sure, but not necessarily an easy feat to accomplish over and over again. Five balls constitute a complete game.

The prime strategy is to concentrate fire by causing the ball to ricochet off the appropriate segment of the paddle to produce the desired angle of flight. Keep blasting away at one section of wall, preferably at the extreme left or right of the playfield, until the ball has cleared a path to the empty space behind the wall. The ball will bounce around back there instead of returning to the lower portion of the field, scoring points in bunches instead of one at a time.

The same cartridge contains **Breakthru**, a souped-up version of the classic game. This time, the ball clears a path through the entire wall, bounces off the rear of the playfield and once again plows through the bricks on the return trip.

Breakthu, though a little less challenging than **Breakout**, can easily become an addiction. It's great for head-to-head competition, since a best three-of-out-of-five series takes less than a half-hour, and it's also a lot of fun solo. Unfortunately, many gamers find their skill improves so much as a result of constant play that they are able to clear both walls with just one ball. If that happens to you, returning to **Breakout** may provide fast relief—and a new lease on life for the cartridge.

* * *

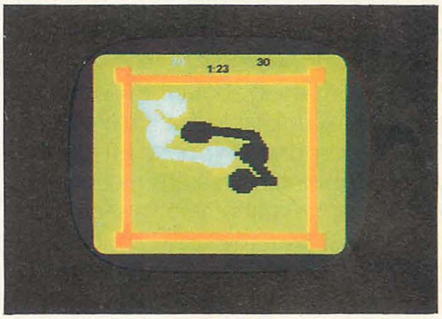


BREAKOUT

Boxing (ActiVision/AG 002) is the first cartridge devoted to the fistic scene—and it's a real knockout. Video managers maneuver their boxers, colored black and white for easy identification, in the clinches, around a ring viewed from overhead.

To keep the game from wallowing in complexity, the computer assumes the chore of punch selection. The gamer decides when to throw leather by pressing the action button, but the system then selects the appropriate blow in light of the two boxers' relative positions within the ring.

Rounds last two minutes instead of the regulation three, but this is probably due to the kindness of some generous soul at ActiVision. Only Rocky could survive 15 of these grueling rounds without needing a thumb transplant. The on-screen pugilists could probably batter away at each other forever, but the human managers will need a breather between rounds. A little experimentation indicates that three rounds for a preliminary and five for a main event make good matches.



BOXING

Stick and run is the best tactic in **Boxing**. Keep throwing the jab, and try to dance away from your opponent's long-range bombs. Flat-footed sluggers haven't got a prayer in this one.

Once the other boxer is immobilized against the ropes or in a corner, it's time to have your man bore in for the coup de grace. Keep the action button pressed to pound out devastating combinations. Normally, the computer forces a fighter to back up a little and get out of harm's way when he takes a solid punch, but this is impossible if the pugilist has nowhere to escape. Show no mercy.

Knockouts occur when one boxer scores 100 points in a single round. If that happens, look carefully—your opponent may have left the room to get a soft drink or something. On the other hand, scoring less than 50 points suggests that the manager should adopt a more aggressive strategy in the future.

Alien Invaders—Plus! (Odyssey/IB 3634-1) makes excellent use of the basic **Space Invaders** concept to produce a game that's different enough to be great fun.

The gamer employs the joystick to move a horizontally mobile laser cannon—and its robot gunner—back and forth across the bottom of the playfield. Poised overhead is a line of eight evil robots, each operating a gun and protected by an impenetrable shield. The defender has some protection, too, in the form of three huge blocks that stop laser fire in either direction.

The aliens also have a lethal leader in the form of the Merciless Monstroth. It starts the game as a sort of unearthly cheerleader, scuttling back and forth behind the android legions. All too soon, however, it abandons this passive role and swoops low over the lone defender to drop loads of deadly bombs.

The worst thing about the Monstroth is that it is as unkillable as it is merciless. If there's even one evil robot left on the screen, the horrid creature regenerates within seconds after taking a seemingly deadly blast from the laser cannon.

When the cannon is hit by enemy fire, it leaves the robot operator completely unprotected against killing laser blasts from above. Moving the defender directly beneath one of the big square shields converts it into a new cannon. After the invaders destroy the fourth cannon, the little robot might as well surrender, because there is no way of returning fire at this point in the game.

The arcader wins a round in the ongoing war against the aliens by clearing the entire playfield of enemy robots. The computer scores a point every time the defender fails to accomplish this goal. When one side accumulates 10 victories, the war is over and trumpets salute the victor.

Some gamers may look at the thin line of eight attackers and conclude that **Alien Invaders—Plus!** is a pushover. Not at all. It's actually a good deal more difficult to play than **Space Invaders** itself.

Winning is a lot easier before the Monstroth starts mixing into the affair, so players must work rapidly. Put the enemy's lasers out of commission first to create "safe zones" for the defender, and then go to work on dispatching the invading robots. Since the Monstroth has no direct effect on scoring, ignore it until it actually begins its low-altitude bombing runs. When the creature does activate, however, it must be dealt with regularly and repeatedly, or it will get the defender sooner or later.

Not just a weak-kneed **Space Invaders** rip-off, **Alien Invaders—Plus!** is an exciting and entertaining videogame in its own right.

* * *

Every arcader can be a Luke Skywalker with **Space Battle** (Intellivision/2612), one of the few videogames that combines strategic and tactical elements in the same cartridge. The way in which the three defending fighter squadrons, each with three space craft, are deployed to protect the mothership is as important to ultimate victory as a steady hand with the laser during the ship-to-ship combat portion.

The strategic playfield shows the mothership in the center of the screen, threatened by five enemy fleets with up to 15 ships in each. Pressing the clearly marked alien key on the controller allows the arcader to select a target. The player can then dispatch the red, white or blue squadron by pushing the appropriate section of the overlay. When a defending group reaches the attacking fleet's position, both symbols will begin flashing on the screen.

This is the cue to push the "go to battle" button that switches the action to the tactical display. The arcader is now in the cockpit of one of his fighters. The beautifully drawn alien ships not only dodge your laser fire, they also blast back at you with lasers of their own.

The screen automatically returns to the strategic playfield when an entire alien flotilla is vanquished, or when the gamer pushes the radar key on the controller overlay. Another button is used to return a squadron to the mothership for later reassignment.

In routing the defending squadrons, it is important to avoid two simultaneous battles whenever possible. The computer will automatically conduct any engagement in which the player doesn't take active control of the fighters, but the machine essentially exchanges one fighter for three attackers. Since the player needs to destroy at least five foes for every defending ship lost, it's clear that the computer should be permitted to lead a squadron into battle only in the most dire emergency or as a delaying tactic.

The game can be played at any of four speeds. The second-slowest is a good one at which to learn **Space Battle**, and only the hottest space warriors will stand a chance against the invaders at the fastest play speeds.

Most videogamers will find **Space Battle** a refreshing change from the more straightforward type of outer space shoot-out. The need to orchestrate the sequence of battles adds a thrilling dimension to what would be an exciting game in any case.

* * *

Video Whizball (Zircon-Channel F/C020) was one of the last—and best—cartridges Fairchild produced before abandoning its programmable videogame system. Now that Zircon is marketing the Channel F, **Video Whizball** may finally get the acclaim it richly deserves.

The concept is astonishingly unique, the audio and visual effects are adequate, and play value is excellent.

Each gamer controls a vertically movable paddle in front of a goal at either side of the playfield. The paddles aren't defensive in nature, as veteran arcaders might expect. Instead, they shoot "whizballs" at a large free-floating block. Gamers fire at the floater from three angles—upward, downward and horizontally—in an attempt to shove it through the opponent's goal. The action is somewhat reminiscent of the old commercial arcade game in which players direct air or water guns at ping pong balls.

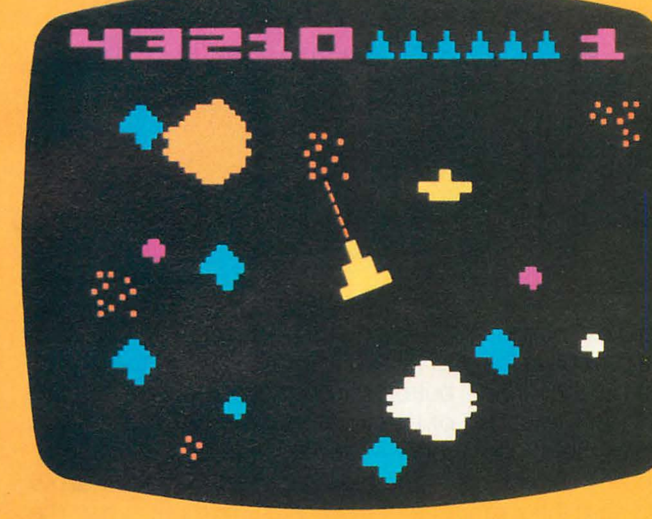
The fun really begins when more than one floater appears on the screen at a time. In the ultimate version, as many as four of these big, dumb blocks are bouncing around the field, creating all kinds of havoc.

When a player's paddle is hit by either a floater or a rival's whizball, it disappears from the screen for a short interval as a penalty. Of course, that leaves the goal open to attack.

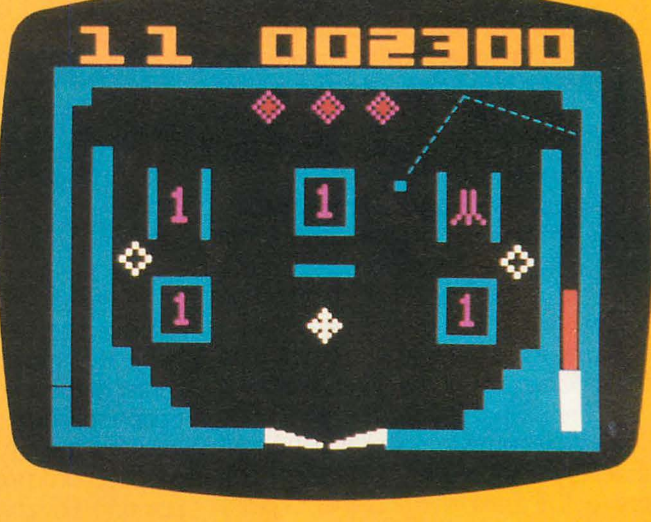
Players can't fire again until the previous whizball strikes something. When the floater is very close to a paddle, however, the defender can loose a series of whizballs with machine-gun-like rapidity.

This is really a good game, especially in light of the limited graphics capability of the Channel F system. There is no similar limit on the inventiveness of the designer who created **Video Whizball**, and Zircon should be thanked for resurrecting this excellent cartridge.

ASTEROIDS



VIDEO PINBALL



Blast Through Deep Space with Asteroids!

Asteroids (Atari/CX 2649) is the long-awaited game that has had owners of Atari's VCS lining up to buy in record numbers. Advance demand ran so high that many retailers had to take reservations from eager arcaders anxious to make sure that they wouldn't be left out once 'Asteroids' arrived in the stores.

Why the long interval between the announcement of the cartridge and its actual release? Making a home version of this coin-op smash proved to be a vastly complicated process. The bugaboo was technology.

The original 'Asteroids' uses an intelligent Quadrascan monitor that allows hi-res images to be drawn anywhere on the screen. This permits the machine to vary the speed and direction of each hunk of space debris. It is impossible to simulate the unique Quadrascan output on a traditional rasterscan screen such as television sets employ.

Another hurdle Atari designers had to overcome is that the typical coin-op game utilizes 16K of memory, about half of which is alloted to the "attract mode," the little show the screen gives when nobody's playing. The VCS, even at its optimum, only had the capability of running a 4K program.

Note the use of the past tense. Development of a bank switching system has effectively doubled the capacity of the Video Computer System.

Even so, those who expect the home version to be as similar to its coin-op parent, as were **Space Invaders** or **Missile Command,** will be disappointed. Judged on its own merits, however, it is an astonishing success.

Played in the "fast" mode, 'Asteroids' is an exciting contest, with multi-colored

Update: The Atari VCS

The year just ending was a banner one for the Atari VCS, which continues to reign supreme as the most popular home programmable arcade machine. Nearly three out of every four videogamers own this system.

A lot of the credit for its success must go to the huge library of cartridges. More than a dozen independent software producers are making cartridges which are compatible with the VCS—and more seem to enter the field every day.

Some of the best of the newest titles include: **Nexar** (Spectravision), **Donkey Kong** (Coleco), **Infiltrate** (Apollo), **Frogger** (Parker Brothers), **Room of Doom** (CommaVid), **Commando Raid** (U.S. Games), **Encounter at L-5** (Data Age) and **Berzerk, Earthworld** and **Star Raiders** (Atari).

space rocks whizzing around the screen in several directions. Even the ever-popular "mystery ship" makes an appearance (if difficulty switches are set to the "A" position). They make surprisingly challenging targets, even in this home edition.

As most **Electronic Games** readers know, 'Asteroids' casts the gamer as the skipper of a spaceship besieged by space rocks of various sizes. The craft can be rotated a full 360 degrees and has a front-mounted laser cannon to chop up the moonlets. When a large asteroid is hit, it breaks into smaller chunks. These, in turn, become interstellar pebbles if struck by a subsequent laser shot. The smaller the asteroid, the higher its point value.

Several options are available. One is the choice between "slow" and "fast" asteroids. The designation is a misnomer, since there's no real change in speed. What happens is that, in the "slow" mode, the space junk moves up and down the screen in relatively straight lines. Playing at the "fast" setting causes the rocks to veer when hit, creating havoc for the arcader who must simultaneously track numerous objects.

The player can also select the number of points needed to earn a bonus ship and whether the craft should be equipped with shields or hyperspace drive. Shields temporarily protect against collision with the asteroids, but they are a major drain on the engines. And keeping the shields up too long will make the ship explode. Hyperspace jumps the ship to a random point elsewhere on the screen. This is only good for life-and-death situations, though, because the new location is often even less hospitable than the previous one.

Since the best 'Asteroids' players generally try to maintain a position at the center of the screen, most use the thrust option sparingly. By pushing the joystick forward, the arcader moves the ship in the direction in which its nose is currently pointing. For abrupt stops, turn the ship around and apply thrust until forward momentum is negated.

The addition of color to the program—the coin-op is limited to black and white with a blue overlay—is a definite gain for the VCS edition. Especially pretty are the white asteroids, which explode in a rainbow when struck by the laser.

* * *

In **Stampede** (Activision/AX-011), designer Bob Whitehead provides arcaders with a novel situation. The player portrays an electronic horseman with a push-button lariat, ropin' steers and chasin' mavericks on the open range. Cleverly disguised as a cute-but-not-too-difficult kideo cartridge, 'Stampede' is actually one of the sternest tests of hand-eye coordination yet devised by the human mind.

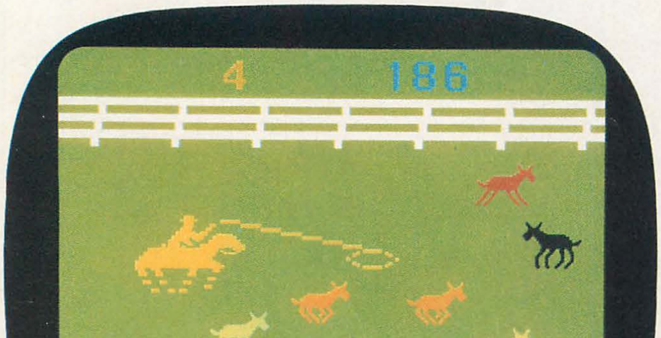
The joystick is used to steer the mounted wrangler up and down the left edge of the screen. A flick of the action button shoots the rope out to snag one of the varicolored cows like a frog's tongue spearing an unwary fly.

The big challenge is to never allow one of the animals to thunder past the cowpoke and off the left edge of the playfield. He can keep the herd within bounds by lassoing some and nudging others by riding up beside them. The problem is the mavericks. These critters don't move a-tall, so they must be roped, or they'll definitely exit stage left. The black maverick cows are worth lots of extra points, however, and roping them will help earn the 1,000 needed to get a bonus horseman.

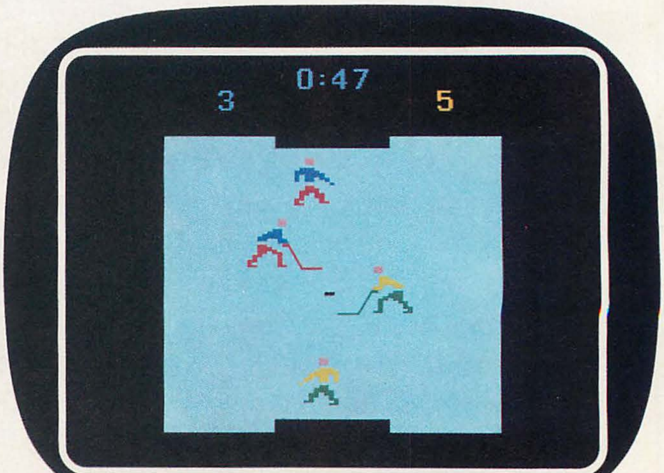
The visuals are excellent. The cows move at varying speeds, and the pony bucks when it runs into a stray and stumbles if it trips on a rock. At the higher speeds, this cartridge is, as its name suggests, a video stampede. So put on your spurs and chaps, slap that 10-gallon hat on your head and ride 'em cowboy!

* * *

Video Pinball (Atari/CX2648) tries to prove that pinball and programmable videogames are compatable, at



STAMPEDE



ICE HOCKEY

least as much as, say, oil and water. Whether Atari has succeeded in wedding the two forms will fuel debate among flipper fans and electronic arcaders alike for some time to come.

Atari made a good start by deciding to control the game with a single joystick—and then using the stick, not the action button, to direct the flippers. This method allows the player to employ the little bats at the bottom of the field one at a time, much as one would on a coin-op pinball machine. (Using the action buttons of both sticks, one for each flipper, might have been even closer to the ideal.)

There's a surprising variety of action in 'Video Pinball.' Three large square bumpers arranged in a big triangle dominate the table, which has the plunger chute on the right and an unguarded drain path on the far left. At the top in the center are three drop targets. These are worth 100 points each when hit and, if all three are eliminated, the multiplier of the main bumpers increases by one. (The bumpers score the multiplier times 100 points for each hit.) If all three drop targets are cleared, they reappear, and the cycle begins again.

Two roll-overs figure prominently in the game. The one on the left is initially worth 100 points times the number shown in the channel, which increases by one every time a ball passes through. At the end of a ball, however, it rings up an additional 1,000 points for each rollover, up to a maximum of 4,000. The other one, easily identified by the Atari symbol, scores far fewer points, but if it's triggered four times, the player gets an extra ball. Don't get greedy, though; Only one bonus ball can be in reserve at any given time. The machine prints an Atari logo just above the flippers each time the gamer scores with the bonus ball roll-over.

Just to add a little extra suspense, Atari threw in a special lit target. It blinks on just below the center bumper for four seconds at a time. Hitting it scores 1,000 points and makes the whole screen flash.

Pinballers often complain that video pinball fails because the player doesn't physically interact with the field. The cartridge partially overcomes this by allowing the arcader to apply little nudges. Holding down the action button lets the gamer tap the ball by pushing the joystick in the desired direction. Only the slightest push will work, since anything harder causes the game to tilt.

'Video Pinball' includes two difficulty levels. The harder adds two more drains at the bottom of the playfield. There are four variations, two solitaire and two head-to-head. Either alone or with a friend, you can choose to have the multipliers reset after each ball or allow them to mount up through the entire course of the game. The latter, obviously, produces the higher scores.

Although nothing short of an honest-to-goodness real pinball table will satisfy the purists, 'Video Pinball' will probably interest most videogamers.

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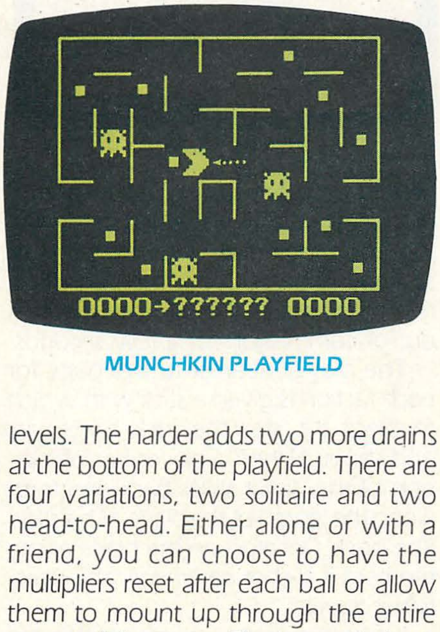
CHALLENGER SERIES
ODYSSEY²
EXPANDED MEMORY!!

K.C. MUNCHKIN

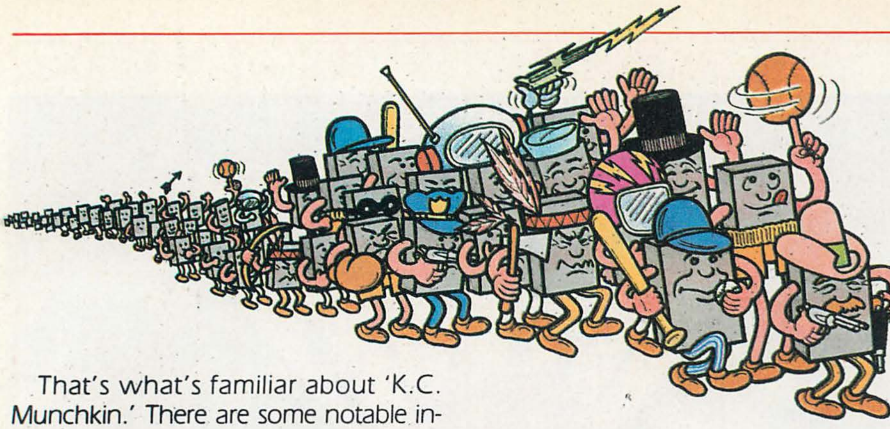


MUNCHKIN PLAYFIELD

K.C. Munchkin (Odyssey²) is a rather amusing twist on the gobble game theme and earns the distinction of being the first of the type to become available as a programmable videogame cartridge. The arcader moves the munchkin around the maze using a joystick in an effort to scoop up the 12 munchies—eight one-point regular ones and four, three-point specials—before one of the three munchers can gulp it down to end the game. It is possible to scroll horizontally using the corridor of the maze that opens to the left and right edges of the screen.

As in **Pac-Man,** eating the special munchies strengthens the munchkin enough to turn the tables on its tormentors. If consumed before any return to the corral for rechanging, the first muncher eaten is worth 5 points, the second scores 10 points and the third counts a big 20 points.

Clearing the entire maze causes the field to be replenished and the game to resume—only this time at a higher level of difficulty. Both the current score and the best total compiled during the current play session are shown at the bottom of the screen. As in Odyssey's **UFO,** there's a place for the proud record-holder to type in his or her name.



That's what's familiar about 'K.C. Munchkin.' There are some notable innovations as well. One departure is that there is a choice of mazes. Four basic designs are available in either standard or invisible form, and an option that produces a new configuration each time is also offered in both modes. Odyssey has capitalized on the flexibility of keyboard input to introduce true programmability to gobble games. That's right, arcaders can custom-design their own mazes! A simple system, which is thoroughly explained in the instruction folder, enables players to quickly add or subtract boundary lines anywhere on the field.

It goes against the gamer's credo to admit it, but 'K.C. Munchkin' may be just a little too easy, especially at the lower skill levels. Even the fact that the munchies move around the playfield does not balance the relatively slow movement speed, and the lack of a real killer instinct on the part of the munchers. The burden will clearly be on the gobble gaming gentry to design more byzantine mazes that pose a tougher test than the ones provided by the cartridge.

* * *

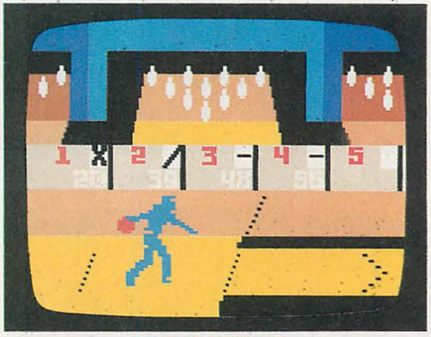
Ice Hockey (Activision/AX-012) is not only this company's first teamsport title, but also its first 4K videogame (not counting the previously published **Bridge**). The extra length—most cartridges are 2K—provides designers the opportunity to add complexity and subtlety to their creations.

Sports games aren't the strong suit of the VCS, just like arcade games often don't look right on the Intellivision. To enable it to produce top-quality home versions of contests like **Breakout** and **Missile Command,** Atari traded high resolution graphics for faster on-screen movement. Mattel made the opposite choice as a result of its decision to concentrate on athletics as the subject of most of its cartridges.

But with 'Ice Hockey' joining Activision's **Tennis** and **Skiing** and Atari's **Championship Soccer,** VCS owners now have a quartet of reasonably realistic simulations that play well solitaire as well as head-to-head.

The cartridge features a non-scrolling, slightly angled rink with two-player teams manning each side. Each team's forward can skate the length of the ice, forechecking fiercely, but the defensemen are restricted to their half of the ice.

Since there are no referees to police things—"I always thought the game would be more fun without them," quips designer Al Miller—slashing, spearing and tripping are vital elements of strategy. If one of your men knocks a rival off his skates, the on-screen figure is out of commission for a few seconds.



PBA BOWLING

The player nearest to the puck for each faction is given a stick with which to check, trip, steal the puck, carry, pass and shoot. When a player has possession of the disk it slides back and forth along the length of the blade of his stick. The puck's locaton on the blade at the moment it is shot determines the direction it travels.

'Ice Hockey' tests accuracy and timing more than simple hand-eye speed. Most will need considerable practice to master passing and shooting. Thanks to the positively wicked solitaire version, you'll be able to get plenty of that.

Don't be discouraged if, at first, the computer-coached team seems like Guy Lafleur and Tony Esposito compared to your imitation of the Winnipeg Jets. Playing time will teach you the nuances of the board angles, how to deke around a defenseman and, perhaps most important, defend your goal.

Do not leave the crease! Not even in one-on-nobody situations. A sounder approach is to stand your ground in front of the net and dare the shooter to slap it past.

Two play variations are offered. The regular version is the one most hockey fans will prefer, while some will find the arcade-like action of the variants involving a slippery, ricocheting puck an interesting change.

* * *

PBA Bowling (Mattel/3333) will shock a lot of electronic keglers. Have you ever noticed the strange thing about video bowling games? The scores are always much, much higher than in real life.

Not this time. Arcaders who manage to score 200 will have earned the musical fanfare the system chirps to mark this milestone.

Participants start by setting the parameters for the game. Variables include the number of players (one to four), the slickness of the alley, the weight of the ball, which hand each roller will use, and whether regulation bowling or a "make the spares" contest will be played.

The opening playfield in 'PBA Bowling' shows a side view of the bowler standing next to the automatic return. Pushing the direction disk lets the on-screen athlete pick up his pin-buster. The two action buttons on the left edge of the controller position the figure anywhere along the starting line. The arcader then holds down the lower righthand action button, starting a white ball moving across the alley over the aiming spots. When the shot is properly lined up, letting go of the button initiates the approach. The gamer quickly presses the direction disk again to indicate how much of a curve the ball should make.

As with many Intellivision titles, 'PBA Bowling' will not be mastered quickly. This is an advantage in that a more difficult game will stand up better over the long haul. It may be a little frustrating until you get the right rhythm, admittedly, but when you can make those strikes and spares with consistency, there's no bowling cartridge quite as enjoyable as this one.

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Update: Mattel's Intellivision

The dry spell for new games appears to have ended, and there's now a steady stream of new releases from Mattel itself, as well as from third-party outfits like Activision and Imagic. Also new in time for holiday gift-giving is the Intellivoice voice synthesis module. The male/female voices issuing from this device are crisp and easily understandable—and speech adds much to special voice carts like **B-17 Bomber.**

Other newly released good cartridges include **Night Stalker** and **Reversi** (Mattel), **Demon Attack** and **Atlantic** (Imagic), and **Stampede** and **Pitfall** (Activision).

Fly High—and Low—with Barnstorming

Barnstorming/Activision/for VCS

Activision, always known for its original game ideas and super graphics, obviously found yet another designer to carry on the tradition. **Barnstorming** is the creation of newcomer Steve Cartwright, and his work shows that he clearly understands the elements that make Activision games work.

If at first, *Barnstorming* seems like a visually-impressive bit of fluff, stick with it a bit, learn the tricks and nuances of play and you'll be well rewarded for your time. The game begins with a vintage, air circus bi-plane, parked on a runway. In the foreground is a continuous span of fence which helps create the program's sense of movement.

Gamers "take off" by hitting the action button after choosing one of four flying options. The novice level, "Hedge Hopper" is a fixed course with 10 barns; "Crop Duster" and "Stunt Pilot" are both fixed courses (though different from one another) with 15 barns; and the "Flying Ace" level requires the player to deal with 25 barns on a randomly generated course.

The goal of *Barnstorming* is to fly a bucket of bolts over windmills and through the barns that dot the landscape (with the difficulty switch "A", video aces must get their craft nearly to the ground before it can get through a barn). Skipping a barn just adds another down the road. The idea, of course, is to accomplish the goal in the shortest time possible.

Tyro Barnstomers are advised to play their first few games like so: hit the action button to start the engine, but immediately thereafter remove pressure from that button, which acts as an accelerator. This provides an opportunity to get the feel of the game without being harassed by the ubiquitous flocks of geese that show up just as soon as the biplane picks up speed. The geese are more of an annoyance than a true danger, but prove to be frustating obstacles nonetheless.

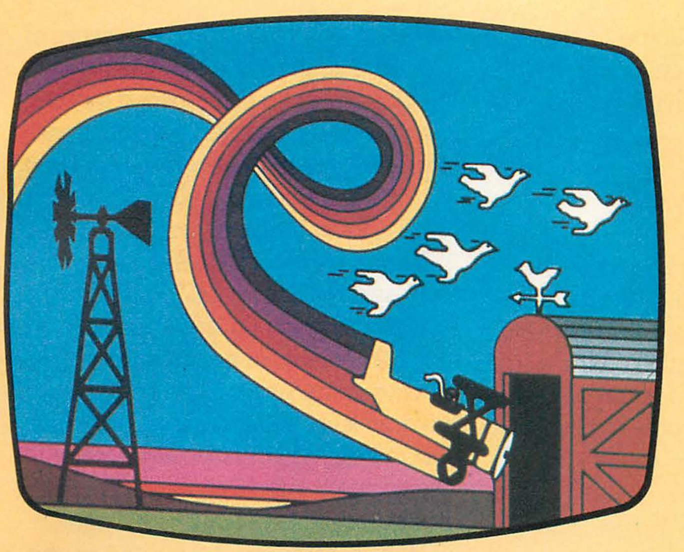
Bally Pin/Astrovision/ Astro Professional Arcade

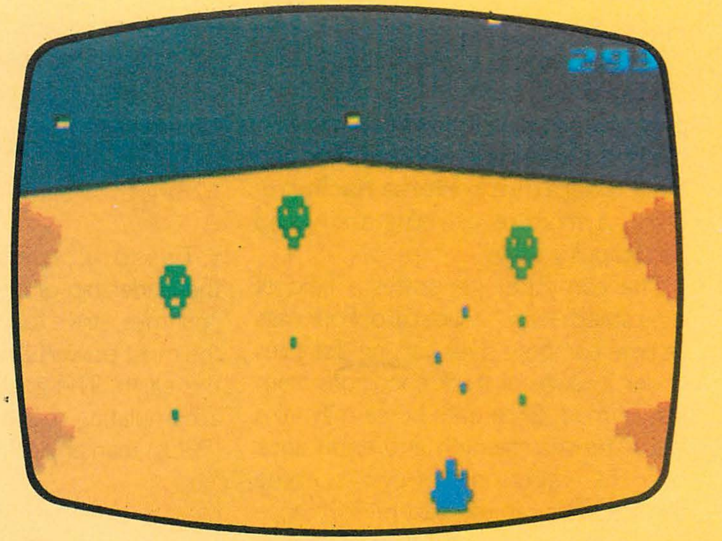
Imagine a videogame version of pinball with all the color, action, and excitement of the real thing. It would offer two distinctive playfields, two sets of flippers, reset spin-paddle, thumper and back bumpers.

Sound like a pipe dream? It's not. Bob Ogdon's design for this pinball simulation is so skillfully constructed that even those staunch videogame chauvinists who wouldn't be caught dead near a flipper machine will soon find themselves transfixed by the realistic play, vivid colors and inspired play mechanics. Arcaders hold two of the Astro Arcade pistol-grip controllers. Using the right thumb, the ball awaiting ejection from the chamber is sent gyrating onto the playfield through a special, spinning-reset paddle. The trigger on the right-hand controller operates the two flippers on the right side of the center gutter; the left controller's trigger operates the pair of flippers on the left. This "*two gun*" effect is the first succesful use of progammable videogame controllers in a pinball simulation, effectively recreating the sense of smashing away at flipper buttons on the real thing.

Spacechase/Games by Apollo/ Atari VCS

This is the second release from one of the new independent software suppliers catering to the Atari VCS system The Richardson, Tex. -based outfit bought its first game, titled


BARNSTORMING


SPACECHASE

Skeet Shoot, from an independent source, and it is a less than satisfying target cartridge that could probably use some additional fine-tuning.

Spacechase, Apollo's first "in house" creation, is a completely different story. It's an exciting science fiction shooting gallery that rewards skillful players with a succession of new and ever more deadly flights of alien invaders as the contest proceeds.

The playfield represents a view of Earth from a point in space where the planet fills the bottom of the cockpit's front view screen and the curve of the horizon and the stars blinking against the void comprise the upper view.

Gamers choose from among 24 variations—12 day and 12 night missions. The pilot uses a joystick to control a laser cannon at the bottom of the screen. As in standard alien invasion contests, the cannon can be shifted freely left or right. This weapon, however, can also move vertically to a certain degree, *a la* **Centipede**. Once play is initiated, four tiny dots, two from each side of the screen, zip to the center of the playfield and blossom into deadly alien warships. Owing to an Apollo programming innovation, objects on the same horizontal line are able to move in different, random directions, resulting in a wild, unpredictable swirling of invaders across the playfield.

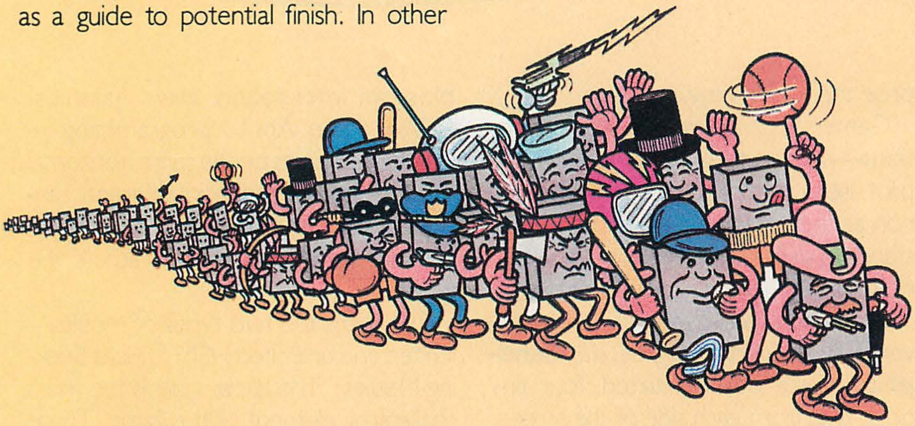
The aliens fire two types of missiles—limited and unlimited HSM's (Heat-Seeking-Missiles). The latter type is the most challenging element of the game. These buggers can change direction in mid-flight in order to pursue their prey. The arcader's sole defense against the HSM's is to destroy them in the air.

Tilt!
Game Over
25¢

Horse Racing/Mattel/Intellivision

This cartridge is a sure bet to please fanciers of the sport of kings. No other program, not even for microcomputers, offers this particular blend of luck and skill. Making a mint in **Horse Racing** requires a mixture of riding ability and handicapping savvy.

The computer generates a field of eight steeds for a 10-race card. Four nags at time compete over varying distances under a range of track conditions from fast to mud. Since each horse maintains characteristic strength and endurance over the entire series of events, home handicappers can use past performance as a guide to potential finish. In other words, a sprinter that beat an endurance horse at a given distance is likely to do so again if the race were rerun under the same conditions, though the flyer might have a better chance at, say, 10 furlongs.



The other important element in *Horse Racing* is, as might be expected, the running of the race. While two human jockeys ride horses using the hand controllers to input commands, the computer takes charge of the other two equine contenders.

A little coaxing at the beginning of a race will produce some early speed, and a touch of the whip down the stretch can work miracles. There is a catch, unfortunately. Over-using either can cause your charger to stumble across the finish line what seems like an eternity after the rest of the field.

After each race, the winning time and the official order of finish are flashed on the tote board. The computer then determines the winners and losers, paying off bets as required. The participant with the largest winnings at the end of the 10-race series is acclaimed the victor.

In our opinion, this is the best of all the gambling cartridges available for home videogame systems. Some of the card games are undeniably clever, but few are as involving for the players as this trip to the electronic track.

Conquest of the World/
Odyssey/Odyssey^2

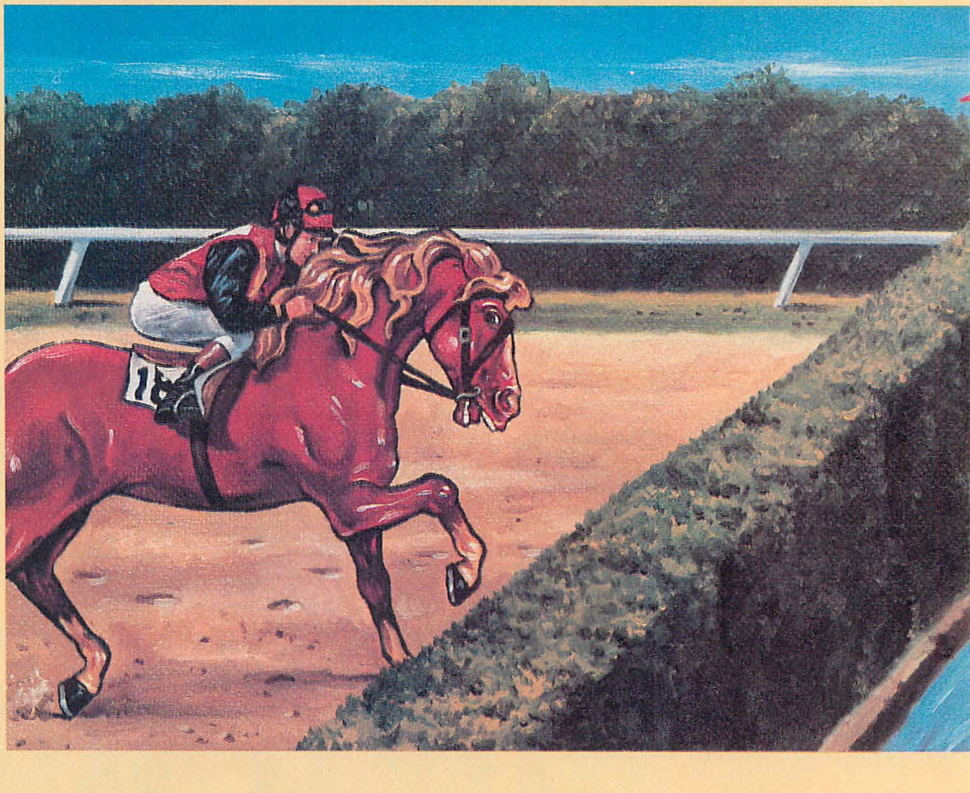
Two to six players, each representing the leadership of one of the game's 43 countries, strive to make their homeland the most powerful nation on the face of the earth. This goal is accomplished by accumulating more power base units (PBUs) than any other country.

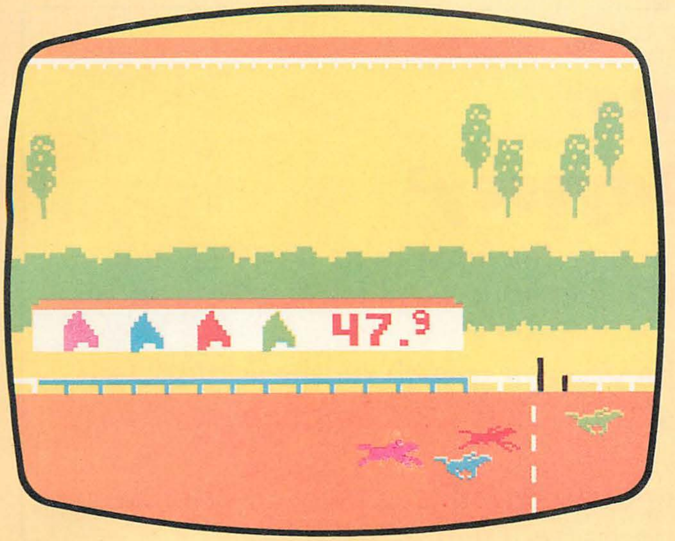
The diplomatic in-fighting takes place on a special mapboard provided with the game. When open hostilities erupt, action switches to the video screen. Each country musters land, sea and air combat units, which square off in a series of one-on-one showdowns. A player can employ any of his three armed services, with the only restriction being that once a specific type of military force has failed in one engagement of a war, it cannot be used again in the same war.

This is only the sketchiest outline of the play-system used in *Conquest of the World.* Designers Ed and Linda Averett and Steve Lehner have created a game of consumate scope and subtlety. It will take at least several games for most would-be conquerors to fully perceive all the complex interrelationships built into this boardgame/videogame hybrid.

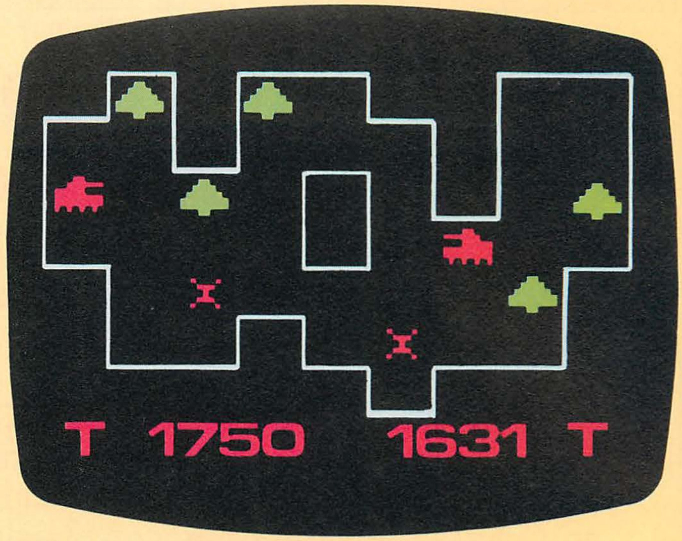
With a game as complicated as this one, a good set of instructions is mandatory. *Conquest of the World* is well provided for in this respect, since the profusely illustrated rule book leads participants through the routine of play one small step at a time without ever losing sight of the overall objective.

Few videogame cartridges are perfect, and opportunities to go wrong are far more numerous in something with the sweep of *Conquest of the World* than would be the case with the typical maze or invasion game. Remarkably, there are very few such miscues. The only obvious on is requiring the submarine to surface periodically without having the program force it to do so. This encourages participants caught up in the heat of a conflict to shade legalities. It could spark an occa-





HORSERACING



CONQUEST OF THE WORLD

sional argument over whether a sub has stayed under water too long.

Conquest of the World is a triumph of stunning proportions. It proves once again that programmable videogame systems have capabilities that still remain to be tapped.

Steeplechase/Sears/ Tele-Arcade or Atari VCS

One of two Atari-generated game cartridges—the other is **Stellar Track**—available exclusively through Sears, **Steeplechase** makes a pleasant, if modest, addition to the VCS library.

Up to four can play this race contest simultaneously, using paddle controllers to "ride" a horse down one of the four horizontally-stacked tracks. Gamers choose a horse by hitting the action button, which makes the appropriate animal rise to its feet.

Once the gun sounds the horses bolt from the starting gate and thunder down the race course. Players can not do anything about their nag's speed, which the computer mandates. The gamer's sole function is to jump the horse over a series of variously-sized hurdles that turn up at regular intervals during the race.

This task is not as easy to perform as you might think. The timing of the jump, for instance, must be absolutely perfect. Leave the ground too early and the steed will crash ignominiously into the back end of the obstacle; jump too late and the stallion's legs will crash into the front of the hurdles.

Once the timing has been mastered, players can improve on their clocking through judicious use of the rolling "height" bar. At the far right end of each racing lane is a small black lever. By turning the paddle controller, this bar can be raised or lowered, determining the length of the horse's jump. Novices are advised to leave the lever at maximum height, but the more time a horse spends in the air, the more time he loses to the horses capable of leaping only as far as necessary. Developing a sense for how high a jump must be to traverse a particular hurdle can only be achieved through practice.

The graphics are more than serviceable with nice use of colors and sound effects that add to the game's overall enjoyment. *Steeplechase* is not the sort of videogame that can be expected to top the popularity charts, but it isn't really supposed to. It's an interesting, professionally-produced game program that offers a nice change of pace for VCS owners when they get tired of obliterating aliens and asteroids. Steeplechase is a pleasant, if unsensational, videogame experience.

Update:
N.A.P.'s Odyssey^2

New cartridges grew a little sparse during the final third of 1982, but Odyssey did provide several additional fine games, led by **Pick Axe Pete** and **The Great Wall Street Fortune Hunt.**

Also new during the final quarter is The Voice, a speech synthesis module for the Odyssey^2. Two cartridges, **K.C.'s Crazy Chase** and **Smithereens**, are already available for use with this unit.

One exciting development is that Imagic has announced plans to produce an Odyssey^2 edition of its great invasion game, **Demon Attack.**

Grand Prix/Activision/Atari VCS

The latest from the creator of **Fishing Derby, Laser Blast** and **Freeway**—David Crane of Activision—has finally given VCS owners an auto race game they can love. **Grand Prix** blends the most sophisticated graphics ever seen in a VCS program with superior action, sound and playability.

An overhead view of the gamer's brightly colored racer appears at the starting line as the game begins. Arcaders can choose from any of four courses—Watkins Glen, Brands Hatch (which has one bridge), Le Mans (two bridges) and, of course, the Monaco Grand Prix, with its three famous overpasses. The jaunt down the attractive, tree-lined route starts slowly as the gamer hits the action button/accelerator to get things going. A timer is instantly activated and the race is on. The longer the accelerator is depressed, the faster the racer will travel. Players can steer to the left or right by moving the joystick up or down—though any turning cuts speed and should be avoided except when a collision is imminent. By removing pressure from the action button and pushing the joystick hard left, the racer's breaks cut in.

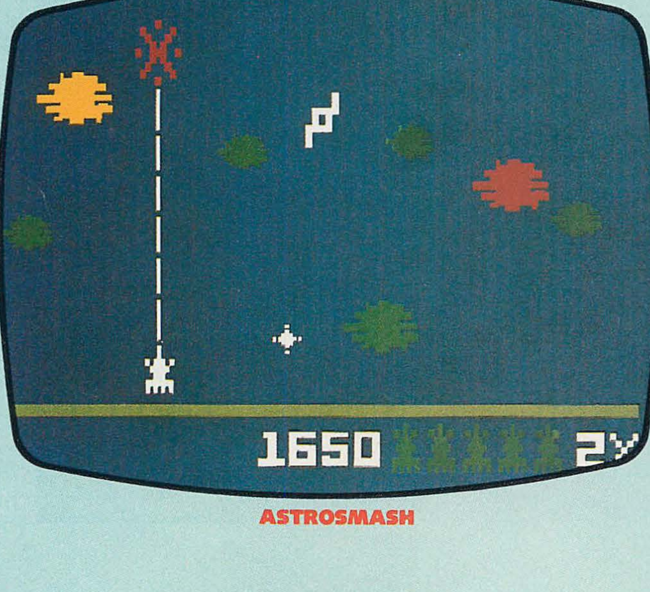
Gamers zip along this scenic trail, swerving to avoid other cars, navigating through the oil slicks (which cause autos to skid and lose control) and lining up when a bridge seems near. A number of oil slicks in a single area indicate either the finish line or an upcoming overpass. When a player crosses the bridge cleanly, his time while passing over it does not advance. Once the gamer leaves the bridge, the clock re-starts. Obviously, crashing into the bridge must be avoided at all costs.

The wisest strategy when racing is to start off fast. Once you pass a car, it is out of the picture and will cause no further trouble. All danger lies ahead. So travel at a good clip, but develop a sense of timing as to how frequently other autos show up. At those times, cut acceleration and survey the scene. If the cars ahead can be cleanly passed, then resume top speed. If not, it makes it easier to screech to a halt when that's called for.

The best strategy, of course, is practice—not only for sharpening skills but to increase familiarity with the track, which is a driver's *single most* important edge.

Again, not only is the action portion of *Grand Prix* spectacular, with cars whizzing along at incredible speeds, but the game is a visual triumph as well. The racers themselves are the best looking automobiles this side of the top coin-op videogames. The large, rear wheels spin faster and faster as the car gains speed and the veering skitter produced by contact with an oil slick is first rate. *Grand Prix* is delightful to look at and a blast to play, and should bring VCS race fans running.

Can You Stop the Sky from Falling?



ASTROSMASH

Astrosmash/Mattel/Intellivision

Most gamers feel the

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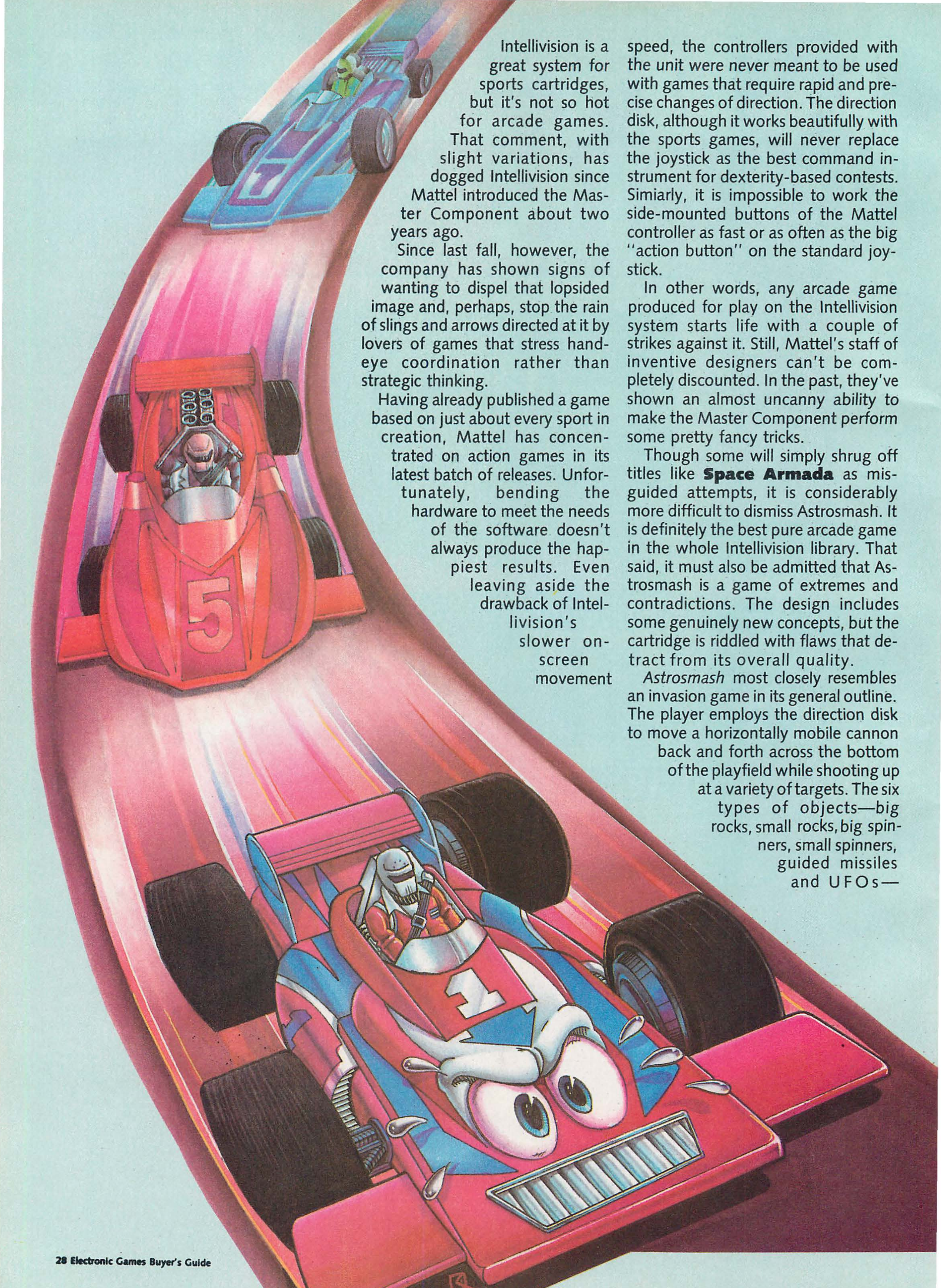


Intellivision is a great system for sports cartridges, but it's not so hot for arcade games. That comment, with slight variations, has dogged Intellivision since Mattel introduced the Master Component about two years ago.

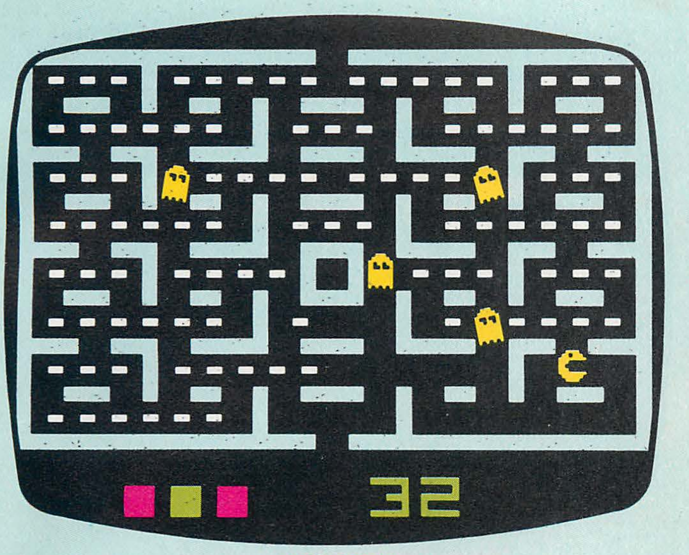
Since last fall, however, the company has shown signs of wanting to dispel that lopsided image and, perhaps, stop the rain of slings and arrows directed at it by lovers of games that stress hand-eye coordination rather than strategic thinking.

Having already published a game based on just about every sport in creation, Mattel has concentrated on action games in its latest batch of releases. Unfortunately, bending the hardware to meet the needs of the software doesn't always produce the happiest results. Even leaving aside the drawback of Intellivision's slower on-screen movement speed, the controllers provided with the unit were never meant to be used with games that require rapid and precise changes of direction. The direction disk, although it works beautifully with the sports games, will never replace the joystick as the best command instrument for dexterity-based contests. Simiarly, it is impossible to work the side-mounted buttons of the Mattel controller as fast or as often as the big "action button" on the standard joystick.

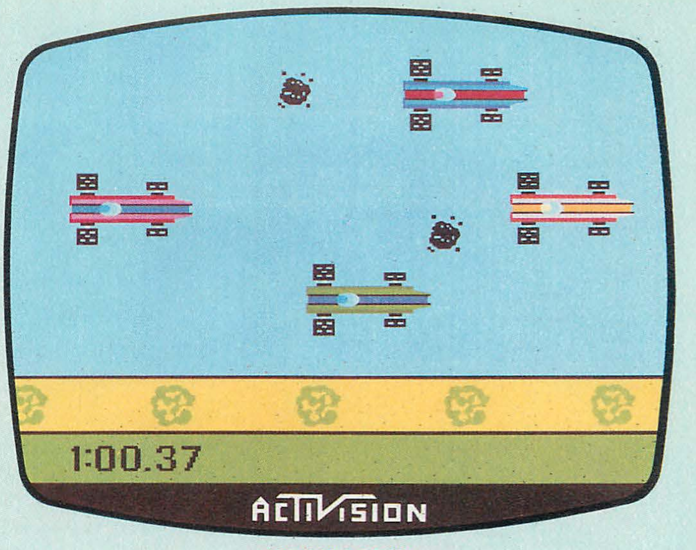
In other words, any arcade game produced for play on the Intellivision system starts life with a couple of strikes against it. Still, Mattel's staff of inventive designers can't be completely discounted. In the past, they've shown an almost uncanny ability to make the Master Component perform some pretty fancy tricks.

Though some will simply shrug off titles like **Space Armada** as misguided attempts, it is considerably more difficult to dismiss Astrosmash. It is definitely the best pure arcade game in the whole Intellivision library. That said, it must also be admitted that Astrosmash is a game of extremes and contradictions. The design includes some genuinely new concepts, but the cartridge is riddled with flaws that detract from its overall quality.

Astrosmash most closely resembles an invasion game in its general outline. The player employs the direction disk to move a horizontally mobile cannon back and forth across the bottom of the playfield while shooting up at a variety of targets. The six types of objects—big rocks, small rocks, big spinners, small spinners, guided missiles and UFOs—



PAC-MAN



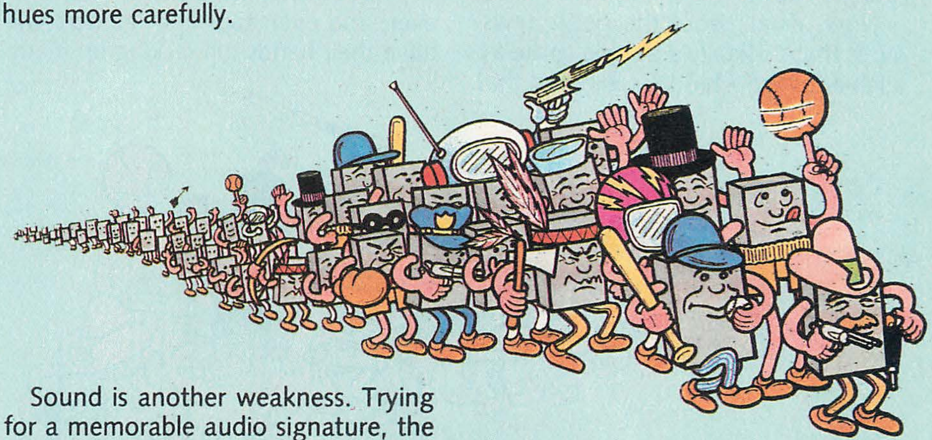
GRAND PRIX

are falling toward the ground at variable rates of speed. The action begins at a snail's pace and gradually speeds up as the score increases. There are six basic levels of difficulty, and the background color shifts to let the arcader know when he's stepped up in class.

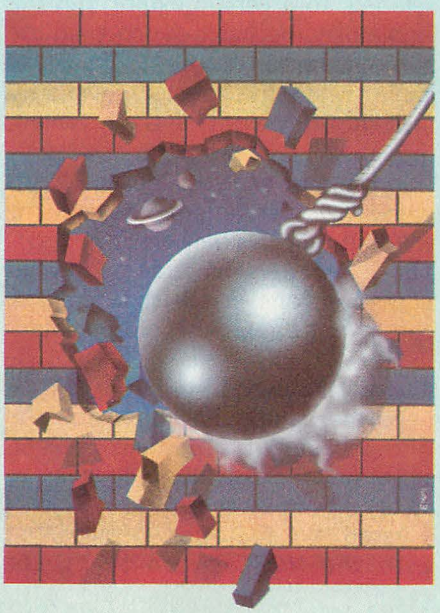
Dodging the targets you can't destroy won't work in *Astrosmash.* Points are subtracted every time a big or small rock lands, and the player automatically loses one of the allotted guns if a spinner slips past. The guided missiles, should they reach the bottom of the screen, will often home in on the cannon and wipe it out. The only defense against this is the hyperspace button, which immediately moves the gun to a randomly selected point along the bottom of the screen. The UFOs, which only appear at the fourth skill level (20,000 points) can fire back at the cannon.

For the first time, a game offers players the option of firing one burst at a time or selecting an auto-shoot alternative. The latter enables the gunner to get off three shots every second. Some players report that they actually do better firing single shots, but most people will want to let the cannon blast away on automatic, if only to rescue their finger from all that button-pressing.

The color changes are the game's single most annoying factor. The original black is all right, but the program shifts to an eyeball-searing blue at 1,000 points that makes it somewhat unpleasant to continue. The rest of the colors aren't quite as bad, but the designer should have chosen the hues more carefully.



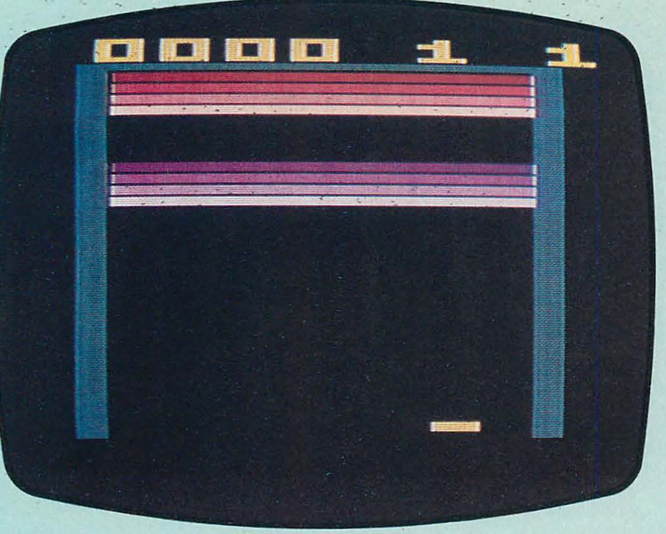
Sound is another weakness. Trying for a memorable audio signature, the designers of *Astrosmash* have ended up with a noise like a 25-cent cap pistol. It doesn't make pleasant listening when playing a game that can easily last for a couple of hours in skilled hands.



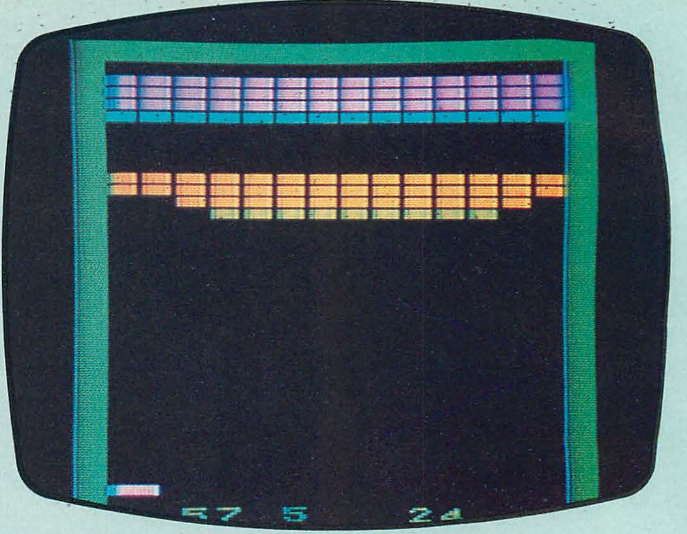
Despite its flaws, *Astrosmash* must be regarded as a milestone for the Intellivision. It may never replace Galaxian or Missile Command, but it does finally provide owenrs of this system with a decent arcade-style contest to challenge their reflexes.

Pac-Man/Atari/Atari VCS

All right, folks, first the bad news about the most eagerly-awaited videogame of all time. Atari's VCS version of Pac-Man neither looks nor sounds anything like the coin-op original. The graphics are clunky and unsophisticated—there are no changing bonus items such as cherries, limes, keys, but simply an orange square with a blue dot inside—and the sounds, except for an in inappropriate metallic "boing" whenever the gobbler consumes a pill, are virtually nonexistent Joystick response on all game variations, but especially game 1, is horrible. Getting the gobbler to drop down through an opening is an ordeal. The



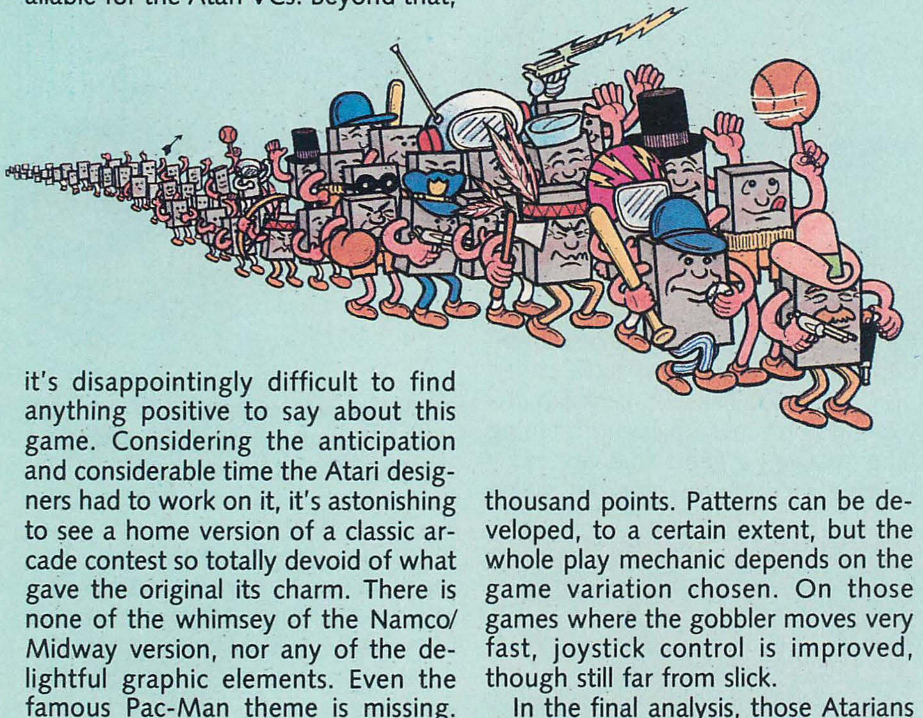
SUPER-BREAKOUT



COMPUTER SUPER-BREAKOUT

goblins blink constantly, making them difficult to see, and their eyes do not look in the direction they're "seeing" or traveling but simply rotate through four positions.

Now, what about the good news? Well, there's finally a gobble game available for the Atari VCs. Beyond that, it's disappointingly difficult to find anything positive to say about this game. Considering the anticipation and considerable time the Atari designers had to work on it, it's astonishing to see a home version of a classic arcade contest so totally devoid of what gave the original its charm. There is none of the whimsey of the Namco/Midway version, nor any of the delightful graphic elements. Even the famous Pac-Man theme is missing. The game looks suspiciously like a project where the creators were so afraid of not measuring up to their source of inspiration that they simply avoided any conflict. The only area where the games go head to head is in the gobbler himself, and here Atari's version makes the transition quite satisfactorily.



As in the coin-op classic, players maneuver the hungry Pac-Man around a labyrinth stocked with pills and patrolled by ravenous goblins. Unlike the coin-op version, the maze is single-line and the "pills" look like hyphens. The "bonus thingie" has a stationary value of 100 points.

This Pac-Man is no pushover, however, and even top-flight gamers will have their hands full racking up many thousand points. Patterns can be developed, to a certain extent, but the whole play mechanic depends on the game variation chosen. On those games where the gobbler moves very fast, joystick control is improved, though still far from slick.

In the final analysis, those Atarians who are desperate for a gobble game will find that this version fits the bill. Those arcaders who demand that home versions match their coin-op cousins will be seriously disappointed.

Super-Breakout/Atari/VCS

Tell me, gamers, how often does the VCS version of a popular coin-op or computer classic not only measure up to, but surpass the game on which it is based. Not too often, perhaps, but with the VCS version of **Super Breakout** we have a cartridge that shines far brighter than either of its predesessors.

As in the coin-op and 400/800 versions, the cartridge features classic Breakout, Double (with two, vertically-stacked paddles), Cavity and Progressive. In Cavity, two bonus balls are trapped in a hollowed out pair of spaces in the standard brickyard wall, waiting to be freed. Progressive blends the classic Breakout with elements of Space Invaders, as the rows of bricks—followed by an equal area of empty space—descend toward the bottom of the playfield, disappearing off screen just before reaching the paddle.

The real difference, however, between this and earlier versions of the *Super Breakout* package is strictly in the sounds. Instead of muted, exploding punch that signalled the bursting of a brick in prior versions, the VCS version features a wide array of accompanying sounds. In some games, bricks disappear with the tinkling of fine crystal, in other variations, the bricks break up to a series of musical notes—and a breakout here creates a *really* wild arpeggio. There's a metallic twang, and an ominous, synthetic fuzz that rumbles ominously with each brick that's destroyed.

It's these totally enchanting sounds that turn a well-respected, but slightly dated program into a wildly contemporary hit. *Super Breakout* for the VCS shows skill, imagination and loving care in its design. Even owners of *Breakout* should seriously consider picking up this videogame wunderkind. In fact, why not try a game or two. If this one doesn't get you, you can't be got.

Man the Cosmic Ramparts!

© Beirne Lowry '82

Space Fortress/Astrovision/
Astro Home Arcade

Coin-op fans will instantly recognize this super fast-action arcade-style space shoot-'em-up as Midway's **Space Zap.** Gamers command a centrally located command fortress capable of firing in any of four directions—North, East, South and West. From those respective positions at the top, bottom and sides of the playfield emerge alien laser-cannons and the occasional, free-flying mystery ship.

As the contest commences, these enemy intrusions are infrequent, appearing at a leisurely pace and waiting a good while before actually firing. Once a cannon fires its laser torpedo, the missile can be detonated by a burst from the player's fortress, and a second blast will be required to eliminate the cannon itself.

Graphics in this Bob Ogdon (of Dave Nutting Associates) creation are crisp and convincing, but it's primary claim as a space action classic is as the world's fastest home blast-'em-up sf videogame. Once the player has gotten the feel of the play mechanic, things really start jumping. The fortress is soon transformed into a whirling dervish of destruction, spinning crazily and spitting out flaming death. This is *not* the sort of game that arcaders will find themselves playing compulsively for hours. Wrists give out after about ten min-

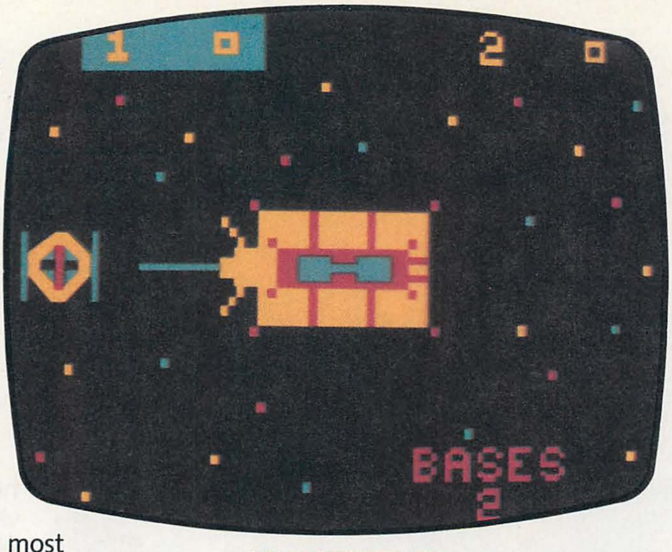
Update: Coleco's ColecoVision

This "third wave" programmable videogame system has the whole hobby buzzing. Plenty of screen-RAM results in graphics and action that set the pace for home videogame machines.

Donkey Kong comes packaged with this system and, by all odds, is the best cartridge ever distributed in this fashion. It's a delightful evocation of the Nintendo coin-op.

Other winning titles for ColecoVision include **Cosmic Avenger, Venture, Smurfs** and **Lady Bug**—with as many as a dozen more scheduled for release before January 1. The accent is on translations of arcade hits, with a few sports and adventure games as leavening.

Coming soon is an add-on that will allow the ColecoVision to run Atari VCS-compatible cartridges. (It won't improve them, but it may come in handy for those who would like to sample some of the titles produced for the VCS—or who already own a collection of them. Also coming in 1983 is a keyboard module.



SPACE FORTRESS

utes of heavy duty action. Play sessions will be brief but intense.

The most difficult obstacle players will encounter, aside from weakness of the flesh will be the UFO/mystery ship. Strategically, at all but the highest levels—where it must be incinerated at the first opportunity—play a waiting game. As in most space shoot-outs of a linear type (such as **Space Invaders, Spacechase** and **Demon Attack**) it's best to let the enemy come to you in preference to actively chasing after him. Sit patiently, but once the enemy strays into range, hesitate not.

Perhaps the most manic space battle of all time, **Space Fortress** will leave you gasping. But you'll always come back for more.

Trickshot/Imagic/Atari VCS

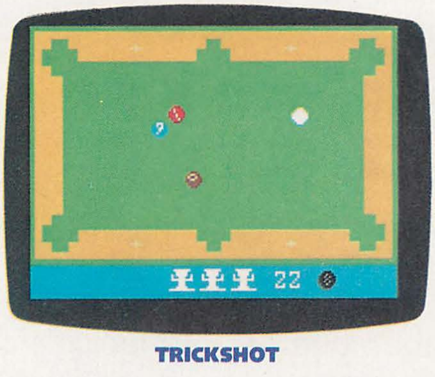
Trickshot is a programmable pool simulation like nothing computer gamers have ever seen before. Players are offered scaled down one-and two-player versions of eightball, for the purists, but the real interest comes from the wide range of "show off" pool shooting set-ups.

One of the major problems faced by designers in programming for the Atari VCS is its otherwise limited screen-RAM—the number of on-screen objects that can be simultaneously manipulated. Therefore, a full nine billiard balls rolling around on a VCS playfield was absolutely out of the question. Imagic has wisely decided to limit the number of balls on screen at any one time to four, and even these spheres blink when the program periodically replenishes the images. Eightball, therefore, is played with a cue ball and three target balls.

The real challenge, however, comes when players must sink combinations of one, two and three balls with a single "trickshot". Determining the correct angle and applying the correct "english" may take some time, but the rewards of sinking three targets with a single stroke will make you feel like a prime contender for a low-calorie beer commercial.

Players shoot by rotating the visible tip of their cue stick in a 360° revolution around the cue ball. The cue ball will travel in the direction dictated by the cue tip's position. There are 16 possible positions—twice as many as are offered in other programmable pool contests—and players can also add topspin, backspin or left/right english to any shots.

The balls roll and drop into pockets with remarkable realism. The graphics, which present an overview of a green felt table with position markings and six pockets, are colorful and pleasant, while the balls are given a sense of dimension by cunningly applied shading. The sounds are unerring as balls clack together and drop into the pockets with a satisfying "thunk". There is even a version of English Billiards offered among the 14 possible variations. Winners are signified by the appearance of a trophy cup beside their score.



TRICKSHOT

A leisurely paced videogame that should prove a captivating change of pace for both male and female home arcaders, *Trickshot* may well be a sleeper hit for Imagic.

Galactic Invasion/Astrovision/Astro Professional Arcade

Up to four players can compete in this home version of Namco's well-known **Galaxian** coin-op. Options include a choice of four levels of difficulty and the ability to set the number of cannons given to each participant.

As most arcaders already know, *Galaxian* is a sort of "son of Space Invaders". Gamers move a laser cannon horizontally and fire upward at a swarm of insectoid creatures. Periodically, a trio of invaders peels off from the main body of attackers to sweep down and across the playfield, spraying the ground below with deadly bombs.

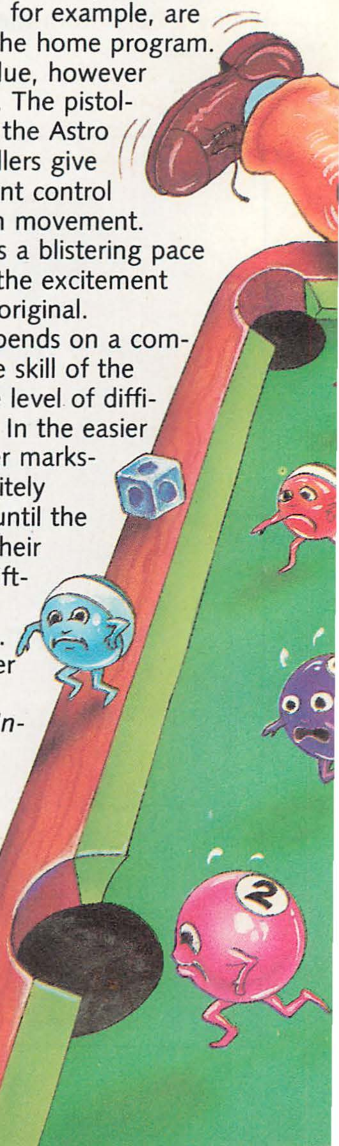
The aliens are a lot easier to hit while they're still in formation, but better players will always withhold fire until some begin to swoop. An attack is worth twice as much when it is zapped in the midst of a divebombing run.

Galactic Invasion's graphics are nice and colorful, but they don't quite match the artistic detail of the drawings used in the coin-op machine. The insects' wings, for example, are not visible in the home program.

The play-value, however is outstanding. The pistol-grip design of the Astro Arcade controllers give players excellent control over on-screen movement. The action sets a blistering pace that packs all the excitement of the arcade original.

Strategy depends on a combination of the skill of the player and the level of difficulty selected. In the easier versions, better marksmen will definitely want to wait until the insects make their move before lifting a finger to take them out.

At the higher difficulty settings, *Galactic Invasion* is just plain murder-



ous. Deadly aliens streak across the screen to ram the defending cannon and are capable of dropping a dozen bombs in one pass. Only the top gunners should sit back and wait for the bugs to make the first move. If they so much as twitch, blast 'em immediately. Once a three-insect group begins a sweep, all but the super-shots are virtually assured of being one "life" down by the time the maneuver is completed.

The aliens always break formation from the sides. Therefore, a wise arcader will begin to attack from either the extreme left or right side of the playfield. That way, you'll have a good chance to eliminate the invaders before they come barrelling down the screen at your gun.

Galactic Invasion is one of the first cartridges Astrovision has released since acquiring the Professional Arcade from Bally. It is exactly the kind of well-conceived entry that should get all home arcaders to sit up and take notice of the revived system.

Boxing/Mattel/ Intellivision

Mattel has achieved quite a reputation for its outstanding sports simulations in the past, and video athletes will be pleased to hear that the company's design staff has entirely lived up to its image with **Boxing.** This two-player contest dishes out a full measure of fistic thrills while providing the most accurate simulation of ring action ever provided by an electronic game program.

This cartridge, like most of the sports titles produced for the Intellivision, offers the participan'ts an unusually wide range of options. The game plays at any of four basic speeds, beginning with the rather pokey "training camp" speed and rising to the fastest setting, "championship" speed. Regardless of the speed at which the action takes place, each *Boxing* fight consists of 15 pounds, each one a simulated 1.5 minutes in duration.

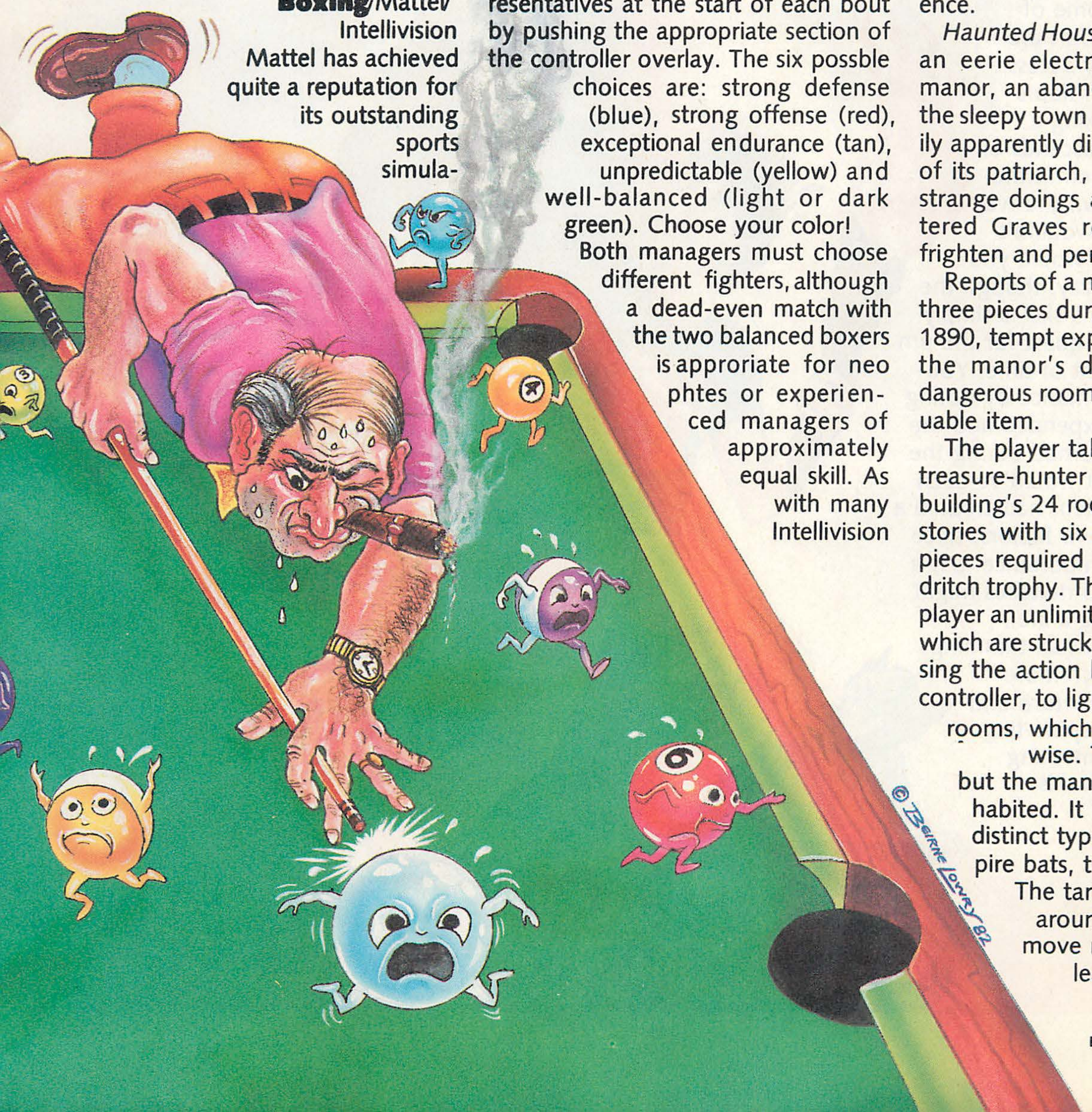
The choice of fighter is also up to the human managers. There are six different pugilists in the program's stable, and each one embodies a somewhat different approach to the sport (except for the pair that are exactly alike).

Managers select their ring representatives at the start of each bout by pushing the appropriate section of the controller overlay. The six possble choices are: strong defense (blue), strong offense (red), exceptional endurance (tan), unpredictable (yellow) and well-balanced (light or dark green). Choose your color!

Both managers must choose different fighters, although a dead-even match with the two balanced boxers is approriate for neophtes or experienced managers of approximately equal skill. As with many Intellivision cartridges, a better choice and assignment of on-screen colors would have improved things, since there's no particular reason why the two equal fighters had to be colored so similarly.

The name of this game is punch selection. Each combatant can throw rights or lefts to the head or body, feint with either hand or even duck. Landing a blow anywhere scores one point, and the computer will simulate a knockdown or even knockout when one of the fighters has absorbed too much punishment.

Boxing is a fine treatment of a sport seldom covered by videogames.



Haunted House/Atari/Atari VCS

Ever since **Adventure** first appeared on the VCS scene to delight the quest-minded, loyal fans have watched the store shelves for a sequel. Atari has taken its time about providing one, but the drought has finally ended. **Haunted House** is a solitaire adventure which, while differing significantly from the earlier cartridge, should appeal to much the same audience.

Haunted House takes the arcader on an eerie electronic visit to Graves manor, an abandoned pile of stone in the sleepy town of Spirit Bay. The family apparently died out with the death of its patriarch, old man Graves, but strange doings at the dark and shuttered Graves residence periodically frighten and perplex the localites.

Reports of a magic urn, broken into three pieces during the earthquake of 1890, tempt explorers to venture into the manor's dark and sometimes dangerous rooms in search of this valuable item.

The player takes the role of such a treasure-hunter and must search the building's 24 rooms, arranged as four stories with six rooms each, for the pieces required to reassemble the eldritch trophy. The program gives each player an unlimited supply of matches, which are struck one at a time by pressing the action button of the joystick controller, to light a path through the rooms, which are pitch-dark otherwise. The people are gone, but the mansion is far from uninhabited. It is populated by three distinct types of creatures: vampire bats, tarantulas and ghosts. The tarantulas scuttle slowly around the place, the bats move more quickly on their leathery wings and the

HAUNTED HOUSE/Continued

ghost can travel through locked doors and solid walls at will.

Any time one of these marauding monsters touches the player—symbolized on-screen by a pair of shining eyes—it costs the seeker one life. Like a cat, you've got nine of them. Winning the game consists of collecting the pieces of the urn and conveying them safely to the front door of Graves Manor before one of the nasties takes your ninth life.

An enchanted scepter hidden somewhere in the haunted house offers the player a measure of protection. No creature can touch the player while he or she holds the scepter. Unfortunately, a player can only handle one object at a time. So just as in *Adventure,* the gamer will be doing a constant juggling act.

Also secreted in the house is a magic key. This comes in especially handy in the more difficult variations, in which some of the doors between rooms are locked to prevent easy access.

Movement between floors is accomplished by taking a staircase. Each either ascends or descends, and none permit the player to go back down the way he or she came. You wouldn't want things *too* easy, would you?

Scoring is a trifle fuzzy, though the real test of an arcader's skill is simply the completion of the quest for the urn in a reasonable amount of time. You can judge your performance by noting the number of lives expended and the number of matches burned during the course of the game. It would've been nice if the scoring system had created a ratio between these two factors, since they aren't of equal importance. (As a guess, burning up two matches might be equivalent to losing a life.)

This game's audio-visual trimmings are excellent. It is much more atmospheric than *Adventure* and gives the arcader the spine-tingling sensation that something sinister and supernatural is just about to happen.

Haunted House is one of the most intriguing and novel videogame cartridges to appear in some time.

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Update:
The Atari 5200

The company that gave the world the VCS is rolling out a "third wave" system featuring markedly better graphics, and a 64K resident memory. In many ways, the 5200 is like a keyboard-less computer that is specifically designed to play sophisticated videogames.

The initial group of cartridges includes several favorites from the 400/800 library in slightly altered form. The catalog includes versions of **Missile Command, Space Invaders, Super-Breakout, Star Raiders** and — for the first time on any Atari machine — **Galaxian.** Coming soon are **Centipede, Defender,** and a pair of sports contests.

Face the Terrors of the Alien Cave!

By BILL KUNKEL & ARNIE KATZ

SPACE CAVERN

Game by Apollo/Atari VCS

You've landed your spaceship on a strange, unexplored planet. After donning your spacesuit and checking the charge on your laser rifle, you leave the craft and start scouting the countryside. Before long, you wander into what turns out to be a huge natural cave with smaller alcoves leading to ominously dark tunnels. Then, in one chilling instant, you discover that you've picked a world which is definitely *not* barren and uninhabited. Flying electrosauri and shaggy marsupods have already staked a claim to this cavern, and these creatures aren't too fond of uninvited guests.

That's the setting for **Space Cavern**, a sequel of sorts to **Space Chase,** which Games by Apollo published earlier this year. Like the earlier cartridge, this one won't be easy to master, but it ought to provide arcade aces with an enjoyable invasion game that will last through hundreds of replays.

Getting into *Space Cavern* requires a little patience and study. Its control system is different enough from other invasion contests that a period of adjustment is necessary. The gamer controls the space suited figure at the bottom of the screen, moving the crewman left or right by pushing the joystick in the desired direction.

To fire at the electrosauri hovering near the roof of the cave, just push the action button. Unlike the flying fiends, the Marsupods rush at the defender from those previously mentioned side-caves. Pushing the stick forward causes the on-screen hero to pivot to the left and fire. Pulling it back makes the spaceman shoot his disrupter to the right. The arcader begins the game with

Continued on page 132

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THE PLAYER'S GUIDE TO

MAZES

RUN, RUN, RUN, UNTIL YOU TURN THE TABLES!

THE COMING OF THE GOBBLE GAMES

Contrary to popular belief, **Pac-Man** was hardly the first electronic maze. Although the Namco/Midway coin-op classic really put the use of maze-like playfield over with the gaming public, several videogame cartridges predate the first appearance of the gallant gobbler. Atari's **Slot Racer,** and **Dodge 'Em** and Odyssey's **Take the Money and Run** all use the labyrinth as the basis of play-action.

There are, essentially, three types of electronic maze games: maze-chases, maze shoot-outs and maze explorations. The former, as a result of the phenomenal popularity of *Pac-Man,* is by far the most popular type. Unlike some other types of maze contests and the invasion games, maze-chases primarily stress the ability of maneuvering around the playfield rather than shooting accuracy and direct confrontation. Perhaps this, in part, explains the fact that female arcaders prefer maze-chase games above all others. Of course, these games are also greatly loved by the male gamers, too, which is why there are more and more of such machines filling the commercial fun parlors.

THE PLAYER'S GUIDE TO
MAZES

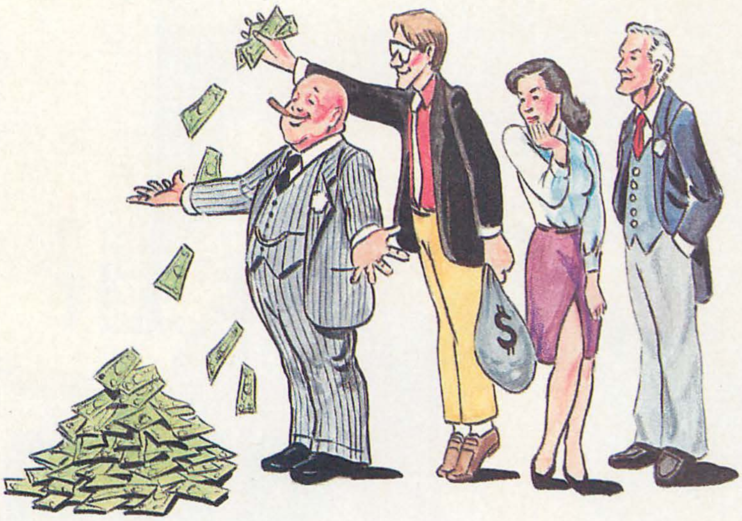
PAC MAN: THE CHAMP CHOMPER

Ever since **Space Invaders** revolutionized the coin-op field, Japan has led the world in the design of coin-op videogames. Yet it has become increasingly obvious that the U.S. and Japan do not always like the same type of machine. While science fiction themes predominate in this country, the outer space games never seized quite so strong a hold in the Orient. Also different is the Japanese players' strong preference for games that use very simple controls. Six- and seven-button coin-op designs just haven't met the same overwhelming success in Japan that they enjoy here.

Pac-Man was the direct result of this distinctly Japanese view of videogame design. It is certainly not an SF epic, and it employed the familiar joystick to move the hungry gobbler through the corridors.

Midway saw the potential in this somewhat unorthodox game after noting its great success in its native land and bought the license to market the machine in the United States.

Pac-Man's popularity grew



steadily through 1981, proving that making sweeping generalizations about what coin-oppers like can be a deceptive oversimplification. It wasn't long before arcade operators began reporting an unexpected development: *Pac-Man* was drawing relatively large numbers of women into the amusement centers. The game's subtle, non-militaristic theme combined with cartoon graphics and simple rules made *Pac-Man* an ideal "first game" for female novice players.

People can't seem to get enough of the gobbler and his four pursuers. *Pac-Man* is available in cartridge form for the Atari VCS and 400/800 computers and as an impressive stand-alone unit from Coleco. (That doesn't even count the legion of copies and near copies of the game that have swamped the hand-held field.)

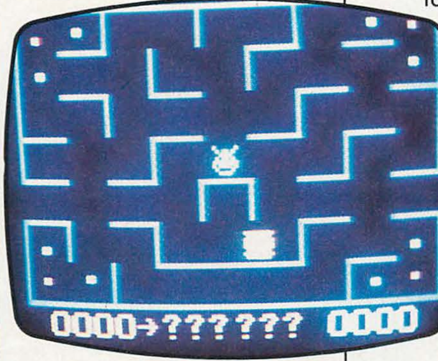
The outstanding longevity of *Pac-Man* has given manufacturers plenty of time to make the gobbler character one of the most easily recognizable—and fully merchandised—symbols in America. You can dry yourself off with a *Pac-Man* towel, slip into some *Pac-Man* swimwear and loll on the beach on your *Pac-Man* towel. And then after a long day in the sun, you can drift off to sleep between crispy *Pac-Man* sheets. The coming fall will even bring a Saturday morning *Pac-Man* television show—with a feature film to follow.

Pac-Man has spawned some interesting sequel and spin off games as well. Midway has distributed **Ms. Pac-Man** with its array of four pastel-colored mazes and **Mr. & Mrs. Pac-Man,** a pinball version of the gobbler's adventures.

GHOST WITH A GUN

Pac-Man isn't the only mazechase, not by a long shot. The original gobble game has spawned an entire genre of contests which utilize the same hide-and-seek concept with various embellishments and refinements.

Arcade Plus' entry into this category has won favor with owners of the Atari 400 and 800 computers. **Ghost Hunter** adds a number of features which make it an individual and distinctive game, including the option of head to head play. This spooky trip through a haunted mansion's labyrinthine halls has a flavor all its own, exemplified by the way the ghost hunter can turn into an ethereal gun at the appropriate moment for dispatching one of the supernatural horrors that float through the playfield.



K. C. MUNCHKIN

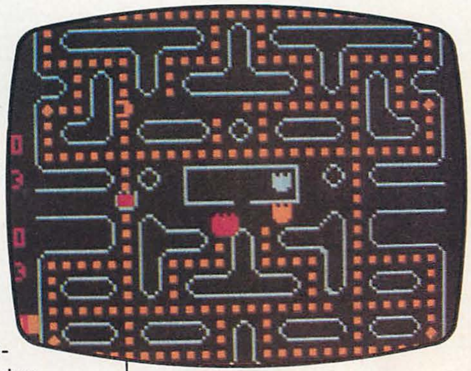
In fact, this game can even play "head to head"!

THEY'RE HUNGRY!

A pair of computer maze chases have adopted a theme that emphasizes the eating aspect of games in which the player-directed character devours objects which line the maze while fleeing from the computer-controlled menaces. **Jawbreaker** (On Line Systems for the Atari 400/800) and **Snack Attack** (Data Most for the Apple II), present their action in the form of an electronic eating spree. In the former case, a set of teeth is wolfing down little hard candies, while in the latter, a cheery little whale is making a dinner of the dots that fill its undersea lair.

Jawbreaker, though best-known for its superb audio-visual effects, is also a beautifully playing game program with some of the smoothest animation seen on the home screen. *Snack Attack* shares many of the strengths, and also boasts a set of four different mazes to further enliven the action.

The "gobbler" in this contest, however, is a ravenous, giant whale!

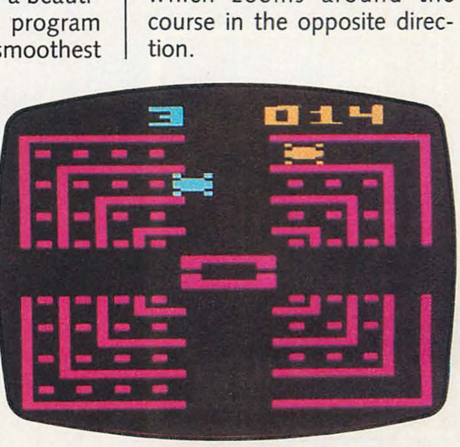


MUNCHIE

THE ARTFUL DODGERS

A couple of rounds of either **Dodge 'Em** (Atari for the VCS) or **Dodge Racer** (Synapse Software for the Atari 800) will convince anyone that all maze-chases are not alike. Both of these automotive games make use of the maze and the idea of clearing objects from the corridors.

The idea in both contests is essentially the same. As the driver of a video racer, the arcader must sweep the track while avoiding a round-ending collision with the computer-controlled crash car which zooms around the course in the opposite direction.



DODGE 'EM

HOTEL
THE PLAYER'S GUIDE TO
MAZES

SHOOT-OUT

CATACOMBS OF DEATH

Just as **Galaxian** introduced a new dimension to the invasion game genre, Stern's **Berzerk** pioneered a fresh approach to the use of the maze in videogames. By offering combat as well as maneuver, this "top 10" coin-op machine gave its legion of devoted players a game characterized by non-stop action *and* constant motion.

With the maze-shoot-outs, it's no longer a question of merely running and hiding until it's time to swallow an energizing pill. Players must actively attempt to dispatch a horde of implaccable foes prowling the twisting paths of the labyrinth. *Berzerk* also keeps arcaders on their toes by forcing them to keep their

IN THE LABYRINTH

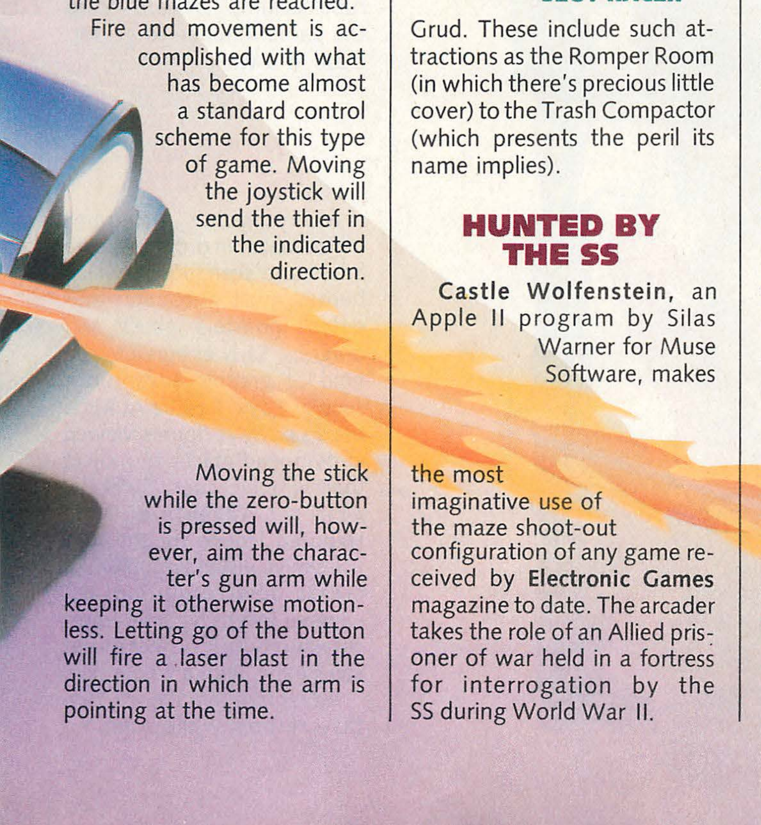
on-screen representative scurrying from room to room in the maze. When a character stays in the same room comples too long, Evil Otto pops up at the left edge of the screen and cuts a swath of death across the playfield.

IT TAKES A THIEF

Thief is Datamost's rendition of a maze-shoot-out for the Apple II. It includes most of the basic elements found in coin-op winners like **Berzerk,** though it makes the action more pointed by setting a definite goal—getting through the entire maze in one piece to establish your credentials as a master thief.

There are three ways to destroy the attacking robots. They can be shot, left as a snack for the Unearthly Blob which performs a function similar to that of Evil Otto in *Berzerk*, or allowed to eliminate each other with random blasts of their laser guns once the blue mazes are reached.

Fire and movement is accomplished with what has become almost a standard control scheme for this type of game. Moving the joystick will send the thief in the indicated direction.

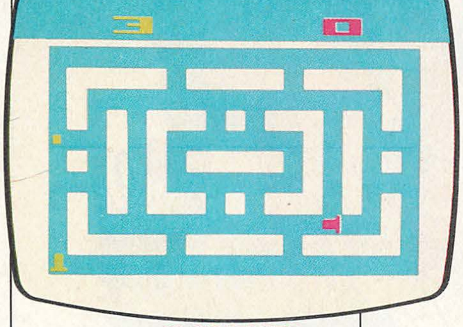


Moving the stick while the zero-button is pressed will, however, aim the character's gun arm while keeping it otherwise motionless. Letting go of the button will fire a laser blast in the direction in which the arm is pointing at the time.

RUNNING THE GAUNTLET

Borg, programmed by Dan Thompson (with aid from Jeff Allen and Tom McWilliams Jr.), is a successful combination of elements found in a wide variety of maze shoot-out game programs, lacing with just enough originality to give *Borg* a distinctive personality.

The outstanding feature is the string of 10 specially constructed rooms through which the dauntless hero must pass on his way to a final confrontation with the nefarious Grud. These include such attractions as the Romper Room (in which there's precious little cover) to the Trash Compactor (which presents the peril its name implies).



SLOT RACER

HUNTED BY THE SS

Castle Wolfenstein, an Apple II program by Silas Warner for Muse Software, makes the most imaginative use of the maze shoot-out configuration of any game received by **Electronic Games** magazine to date. The arcader takes the role of an Allied prisoner of war held in a fortress for interrogation by the SS during World War II.

The only alternative to death is to successfully move through the castle, going from room to room and floor to floor, seeking a way out. The player can win extra glory along the way by finding the secret war plans and carrying them out of the stronghold, into allied hands.

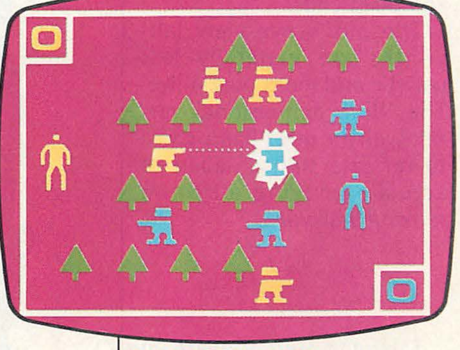
THOSE OFFBEAT VIDEO SHOOT-OUTS

Designers have used quite a bit of imagination in coming up with ways to use the maze in a gaming context. While Odyssey owners can grapple with the major positive and negative forces of the economy in **Take the Money and Run**, Atari VCS partisans can enjoy a brisk game of cops and robbers in **Maze Chase**.

Perhaps the most unusual of the maze games, however, is **Slot Racer**. This one might better have been called "Car Wars" (a name since used for a non-electronic game with a similar theme). In it, players careen around a city-maze, firing missiles from the hood-mounted launchers of their sleek racers in a bid to reduce congestion on the roads.

LET ME OUTTA HERE!

Iowa-based CE Software has produced an unusual game for the Apple II, **Mission Escape,** which turns the typical maze-shoot-out from a supreme test of hand-eye coordination into an absorbing strategic contest. Jim Jacobson's simulation of a getaway from a multi-room security station substitutes keyboard entry of commands for the expected joystick input and provides a greater variety



WAR OF NERVES

of enemies—drones, robots, blockades and storm troopers—than found in most titles in this genre.

The two previously outlined departures from the norm transform *Mission Escape* into a one-of-a-kind gaming experience. Careful planning of the movement and fire sequences, both your own and the enemy's, can make the difference between breathing the sweet air of freedom and having the read the computer's gloating victory message at the end of the game.

Mission Escape is designed to be played under a somewhat tighter rein than most other maze shoot-outs. Ammunition is sharply limited so there's no temptation to resort to mindless blasting, and the well-defined goal keeps the action from becoming too random and diffuse.

SURROUNDED BY ENEMIES!

K-razy Shoot-out (K-Byte, Atari 400 & 800, ROM cartridge), **Guardian** (Continental Software, Apple II, 48K disk) and **Crossfire** (On-Line, Apple II & Atari 400/800, 32K disk) are a trio of maze

The Secret Mazes!

THE CHALLENGE AWAITS

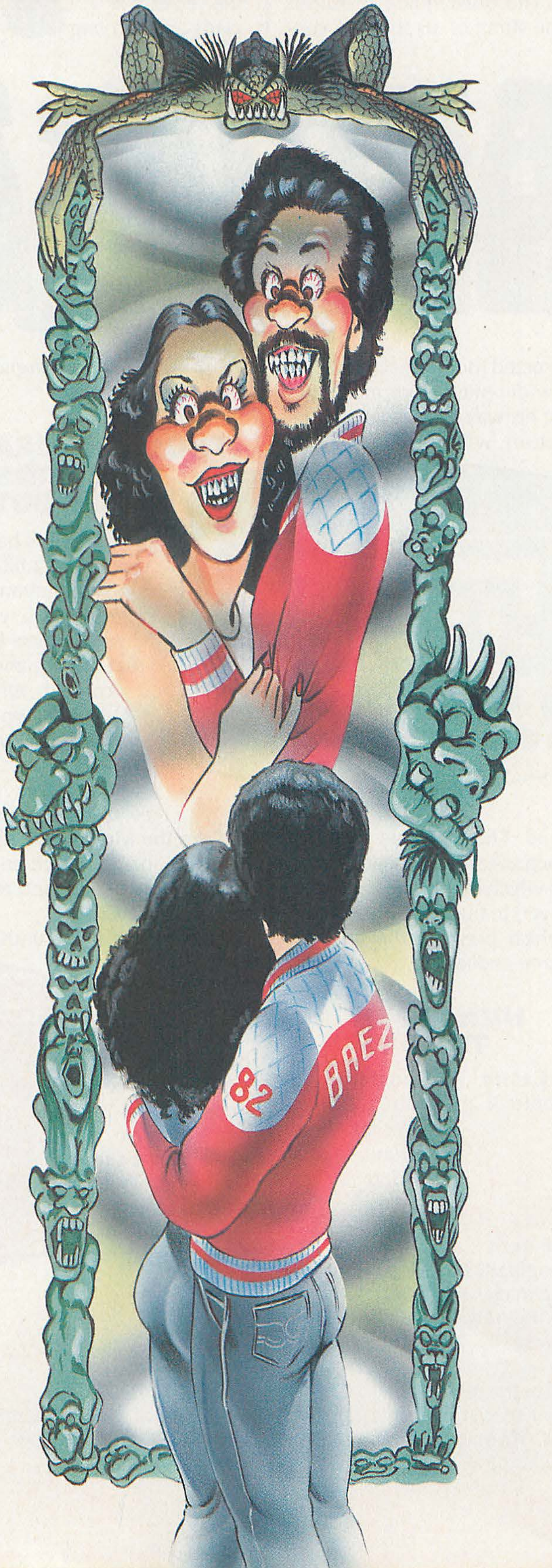
In the mystery maze contests, the gamer's sense of direction is tested to its limits. Whether the maze is viewed from a worm's-eye-view or a bird's, the ultimate goal of the mystery maze game is to successfully navigate through twisting, deceptive corridors, often while being pursued and/or in seach of some treasure.

A good memory is essential to this type of contest. But when memory falters, mapping is the next best thing. The gamer can save a lot of time by drawing a schematic of the path the on-screen surrogate takes, avoiding retraced steps and dead ends.

The bird's eye-view labyrinths are generally less realistic and more puzzle-like. The three dimensional versions, on the other hand, strive to recreate the sensation of actually moving down a snaking walkway.

THE CAGE WITHOUT BARS

Taking a step forward in terms of sophistication and realism is PDI/Beyond Software's **Captivity.** After beginning with a suitably lengthy overhead look at the maze and the player's position within it, the computer transforms the entire sequence into a straight-ahead look at the floor, walls and sky above.



Using the joystick controller, players can turn in any of four directions and move forward by pushing the stick away from them. The great difficulty here is not only determining one's position relative to the entire maze, but also keeping track of which direction the on-screen explorer is facing.

After several minutes of bumping into walls and marching in circles, frustrated gamers may want to call upon the game's trump card. By pressing the action button, the arcader gets a brief overview to help establish position and heading. But players must be miserly in their dependence upon this magic crutch, since it costs both time and valuable scoring points.

Clever use of coloration extends the three-dimensional illusion, allowing gamers to easily gauge the length of the corridor they are searching. In any case, an abrupt "whump" is heard should the gamer happen to get *too* close to a wall.

HEROES GO FORTH

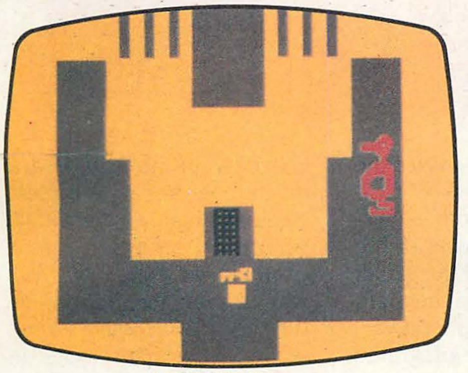
Many game programs utilize mazes in order to create adventure scenarios in which heroes must encounter and defeat monsters, ghosts and dragons. Early entries into the field of graphic adventures, such as Epyx' **Rescue At Rigel** used sideways figures viewed in overhead mazes to project their graphic cues. Similarly, Atari's **Adventure** and **Haunted House** for the VCS use similar visual symbolism to create low-resolution escapades in which gamers must retrieve vital objects, yet still survive with a whole skin.

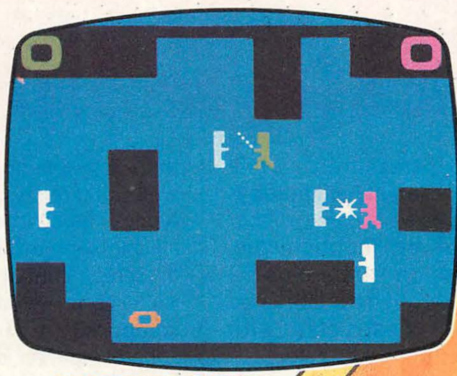
Adventure employs a fantasy setting while *Haunted* shoot-outs which present players with dangers that pop up in unexpected places.

In *K-razy Shoot-Out*, the enemy robots appear one at a time along the edges of each maze-like room. Since the player must labor under a strict time limit, a lot of the action in this cartridge arises from the need to flee androids that suddenly materialze right next door to your on-screen character.

Guardian has a somewhat different flavor than many of the other maze shoot-outs. The player must successfully negotiate a series of simple mazes, each connected to the next-hardest by teleportation chambers. A chamber is located in one of the four corners of each labyrinth and moves from corner to corner randomly whenever the guardian fires the laser.

Many maze shoot-outs increase difficulty as the contest progresses by making the computer-controlled monsters more numerous or quicker on the trigger


ADVENTURE


ODYSSEY'S QUEST

House uses a multi- leveled mansion connected by stairways to simulate a scavenger hunt in a, well, haunted house.

The finest of these programmable videogame maze/adventures, however, is Odyssey's **Quest for the Rings.** This board-videogame hybrid uses surprisingly sophisticated graphics to recreate a variety of perilous dungeons, "peopled" by goblins, wraiths and the ever popular flame-breathing dragon.

IN SEARCH OF PIRATE GOLD

Thunder Island, from A.N.A.L.O.G. Software (for the Atari 400 & 800 computers), places the adventuring arcader within the walls of a forgotten city and challenges him to escape. The maze is viewed from an overhead perspective, making it virtually invisible, except for the area nearest the torch-bearing fortune hunter. The fire illuminates the walls immediately surrounding the explorer, but this light is useless for surveying the overall scene.

Fortunately, the island is named for the fierce storms that constantly rage above it, and each peal of rumbling thunder is immediately followed by a blast of lightning that gives a brief but vivid overview of the entire maze.

THE MAD OVERLORD'S DOMAIN

Undisputed champion of the microcomputer maze adventures is

THE PLAYER'S GUIDE TO
MAZES

Wizardry from Sir-Tech Software for the Apple II. Although this fast-playing game includes many of the features associated with non-electronic role-playing games like **Dungeons & Dragons**™, the main focus of attention in the initial scenario of this multi-part quest is an extensive underground labyrinth.

This maze is viewed by the players—and up to six can participate—as it would be seen by someone actually walking up and down the halls. This means that optical illusions, pits and hidden monsters often come upon the unwary as a total surprise.

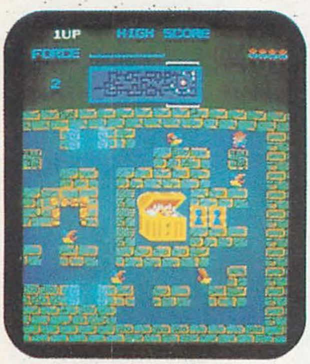
Wizardry is certainly more than just a straight-forward exploration maze, but it is this element that gives the game the open-ended, unfettered feel that has made it so popular with electronic adventurers.

COIN-OPS CAPITALIZE ON MAZEMANIA!

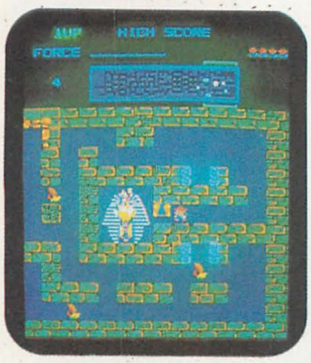
THE NEW MAZE GAMES

Mazes have definitely tunneled their way into the coin-op world's heart. Several new maze-chase games, such as Pacific Novelty's **Thief**, which utilizes a revolutionary TI phonetic voice-chip to provide the best computer kibitzing imaginable, and **Devil Fish**, a more modest entry in the maze-chase department, are on the way.

Several *Pac-Man* inspired games having political scenarios—such as crooked politicos being pursued through a maze by the FBI—are also set to debut, but the most important future direction in the maze game field will be the exploration theme. Centuri's **The Pit** sends gamers down into caverns after hidden treasure, while Konami's **Tutankham** portrays the player as a grave robber (or, to be euphemistic, perhaps an archeologist) moving through a multi-tiered pyramid constructed with traps and menaces galore.



TUTANKHAM



Whichever of these newcomers proves most successful, however, one thing is for sure: Maze games are a permanent part of the electronic gaming scene. Like target contests, alien invasions and scrolling shoot-outs, the maze has established itself as one of the basic types of video games.

So power up those flashlights and start exploring!

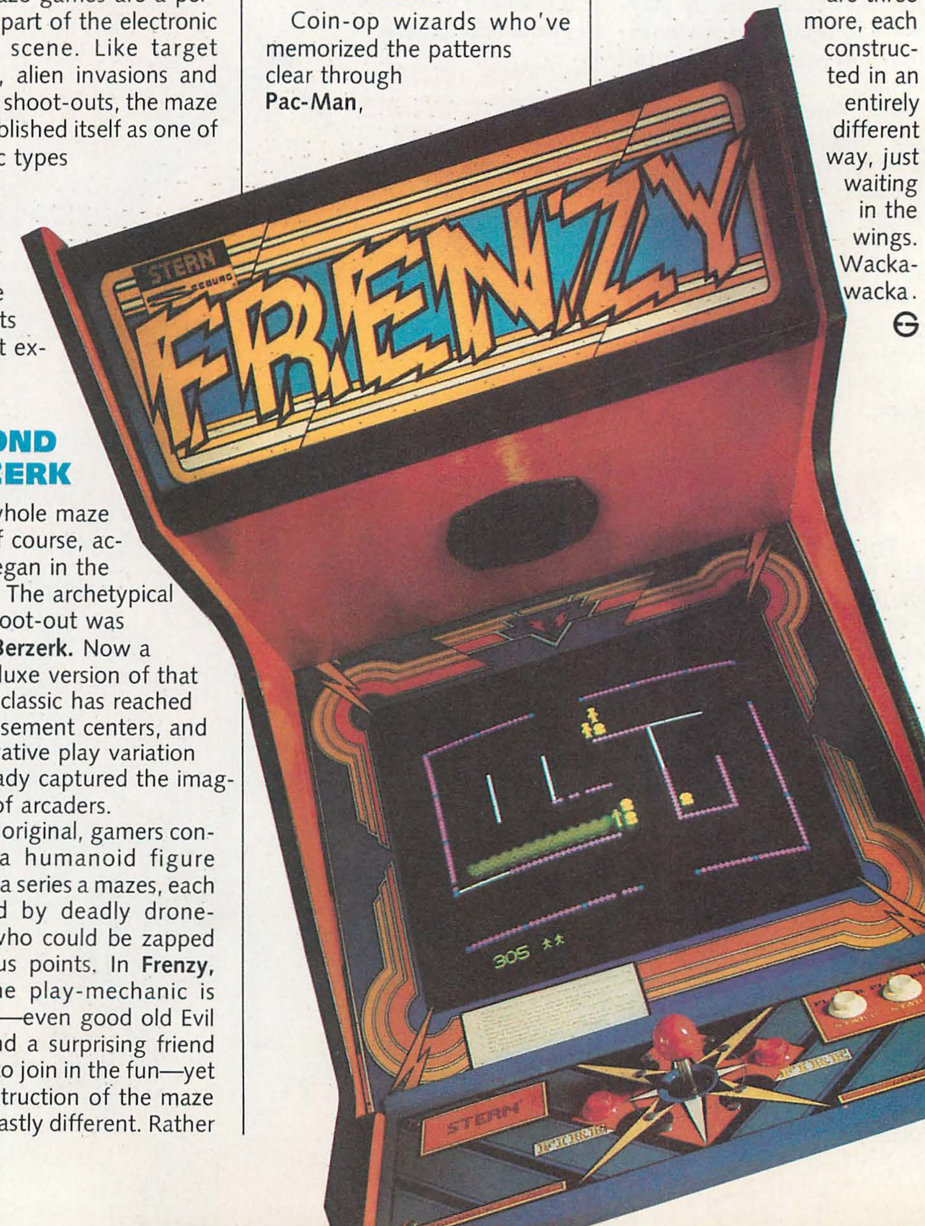
BEYOND BERZERK

The whole maze craze, of course, actually began in the arcades. The archetypical maze shoot-out was Stern's **Berzerk.** Now a new, deluxe version of that coin-op classic has reached the amusement centers, and its innovative play variation has already captured the imagination of arcaders.

In the original, gamers controlled a humanoid figure through a series a mazes, each patrolled by deadly drone-robots who could be zapped for bonus points. In **Frenzy,** the same play-mechanic is involved—even good old Evil Otto, and a surprising friend turn up to join in the fun—yet the construction of the maze itself is vastly different. Rather than a simple line maze, the walls in *Frenzy* are of two types. The solid ones deflect all shots—right back at the on-screen human if the gamer isn't careful—while the walls composed of round power-spheres can be disintegrated by laser fire.

THAT GOBBLIN' GAL

Coin-op wizards who've memorized the patterns clear through **Pac-Man,** will now be able to find a much more free-style contest awaiting them in the distaff version of the classic gobble game. In **Ms. Pac-Man** (Midway), players are offered three tunnels to *Pac-Man's* one, while the goblins move in much more random patterns. Moreover, even after the initial maze is mastered, there are three more, each constructed in an entirely different way, just waiting in the wings. Wacka-wacka. ⊖



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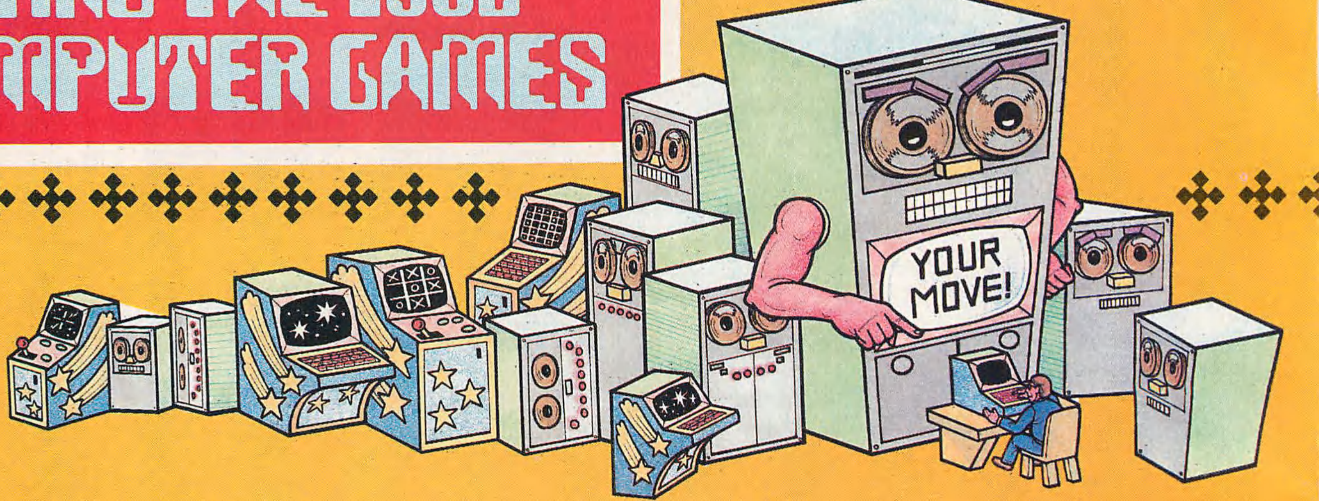
RATING THE 1982 COMPUTER GAMES



Software for the Apple II was tested at The Computer Center, 480 Lexington Avenue, New York, N.Y. 10167. Computer Center, which also has a second location at 31 E. 31st Street, offers a huge assortment of games for all popular computers in its stores and by mail order.

Software for the Atari computer was tested on an Atari 800 48K machine or on an Atari 400 upgraded to 32 with an Axlon Ramcram.

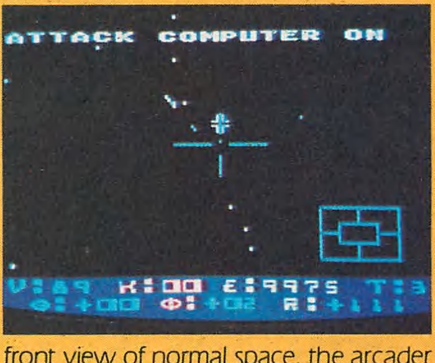
Star Raiders (Atari/Atari 400 & 800) is the game that, in the opinion of many, sells a lot of 400 computer systems for the Sunnyvale, Ca., manufacturer. Not that other excellent software doesn't exist, but it is **Star Raiders** which best demonstrates the outstanding videogame and computer capabilities of the 6502-based machines.

Star Raiders is a brilliantly conceived, state-of-the-art program that has established the standards prospective software marketerd will be trying to surpass over the next year or so. It is similar to the trek-style science fiction programs that are a staple of computer gaming, but it is far superior to all past efforts in this field.

The **Star Raiders** experience begins with the selection of one of the four missions—Novice, Pilot, Warrior or Commander—each a little more difficult than the preceeding one. In the Novice mission, the Zylons don't fire back, so this is a good level at which to get the intricate play mechanics down pat. Space knights will want to move up to the Pilot mission as soon as possible to enjoy the full flavor of the contest.

After the arcader engages the shields ("S" on the keyboard) and computer ("C"), it's time to punch "G" to bring the galactic chart up on the viewing screen. This grid shows the locations of friendly starbases and the various Zylon attack squadrons. The same field also furnishes helpful data concerning the energy cost of hyper-space travel, damage control and the current star date.

To travel between sectors, the pilot uses the joystick to position the cursor over the desired destination on the galactic chart. Pushing "F" to switch to a front view of normal space, the arcader then powers up the hyper-warp engines. **Star Raiders'** single most breathtaking visual is the jaunt through null-space. It's a science fiction vision straight from "Star Wars"!



When the ship arrives at a Zylon-occupied sector, the screen flashes red, a claxon sounds and the machine prints out a "Red Alert" warning. And that's where **Star Raiders** diverges from the run-of-the-mill strategic simulation. The cartridge also boasts a tactical combat phase in which Zylon fighters dive toward the earth ship's front screen, disappear momentarily and then reappear on the rear screen zooming into the vastness of space. Alien vessels crisscross in the distance and then zoom toward the single defender for the kill!

Zylon craft come in three varieties: fighters, cruisers and basestars. The latter aren't as mobile as the other two types, but they have shields capable of turning back all but close-range attacks. And the basestars are deadly at that distance.

If the arcader's ship sustains damage or is just low on energy, docking at a friendly starbase will set things right. The docking sequence is a particularly nice bit of animation in which the starbase sends out a small shuttle which floats over to the ship and readies it for re-launch.

Even this description can't catalogue all the fine details included in this outstanding program. There is variable impulse engine power for movement within a space sector, ion beam weaponry, a sub-space radio to report on battles taking place in other parts of the galaxy, a sector-scan display and much, much more.

In fact, **Star Raiders** offers so many activities that up to three gamers can cooperate on a single adventure, "Star Trek" fashion. The crew's videogame ace can handle the joystick, steering and firing as needed. A computer-oriented player can take charge of the console, governing the ship's velocity and jumping back and forth among the various displays. The third member of this hypothetical **Star Raiders** team gets to sit back in the command chair, offering strategy hints and coordinating things. Of course, it is perfectly possible to play solo, too.

The best strategy for ending the Zylon threat is to attempt to anticipate the enemy's computer-directed moves. Use the galactic chart for this, as a quick

The Computer Spaceship Flies!

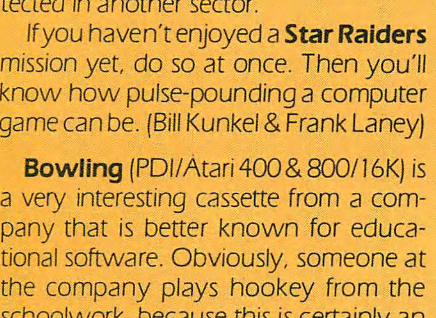
analysis will usually suggest which starbase is under the most immediate threat.

While energy is there to use, it should also be conserved to a certain extent. Not only is energy consumption one of the factors the computer considers when arriving at your final rating, but efficiency in this regard will reduce the need for frequent "pit stops" at friendly starbases. On the other hand, all but the slightest damage should be repaired as soon as practical. A ship without shields isn't going to be much more than a juicy target for a pack of Zylon tie-fighters. And don't forget the sub-space radio, without which it is possible to blunder around in one corner of the galaxy while the invaders wipe out a starbase undetected in another sector.

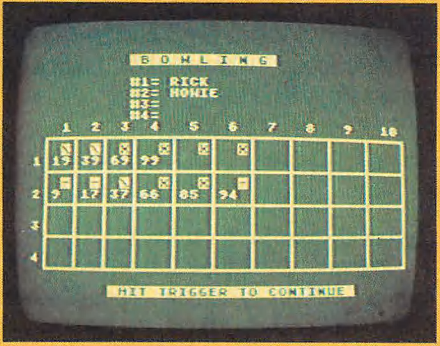
If you haven't enjoyed a **Star Raiders** mission yet, do so at once. Then you'll know how pulse-pounding a computer game can be. (Bill Kunkel & Frank Laney)

Bowling (PDI/Atari 400 & 800/16K) is a very interesting cassette from a company that is better known for educational software. Obviously, someone at the company plays hookey from the schoolwork, because this is certainly an excellent sports simulation.

Players enter their names on the electronic scoresheet in the order in which they desire to play. This done, the computer switches to an overhead view of an alley with a bowling ball moving from side to side at the foul line. There are three play varients, each offering a different type of action. In the simplest, the ball travels in a straight line from the point at which the gamer presses the action button. The second option allows pinblasters to hook the ball. The third one retains the hook, but this time the ball is invisible until it is actually heading down the alley.



Graduates of the Atari VCS **Bowling** cartridge should be warned that this version of **Bowling** features a realistic hook, instead of turning the ball into a 16-lb. guided missile. It's just a gentle nudge, pretty much as in real life.



After each bowler completes a frame, the computer switches to the scoresheet for a recap. This may well be **Bowling's** best feature. Many other programs offer only cummulative scoring or, at most, a notation of strikes and spares. This one furnished a complete scoring line, just the way you'd fill it in yourself.

The color graphics are simple, yet quite effective in conveying the flavor of Ten-pins on the home screen. Come to think of it, perhaps PDI intends **Bowling** as a reward for electronic gamers who've already finished their computerized lesson. (Bill Kunkel)

House of Usher, Beneath the Pyramid and **Sands of Mars** (Crystalware/Atari 400 & 800, Apple II, Pet, TRS-80) are the first trio of releases from one of the most controversial new software publishers. The company's ads promised lavish 3-D graphics and an incredible gaming experience. Although the announced titles carried higher pricetags than most other computer games, anticipation ran high. Clearly, more arcaders were turned on by the concepts than were turned off by the cost.

Fans deluged computer stores with orders, but Crystalware seemed somewhat unprepared for its success. When slowly filled orders finally reached gamers, they were horrified to find that serious programming errors marred the premium-priced games.

"We sold 20 copies of **Sands of Mars,**" one retailer confided to **Electronic Games,** "and 19 of them came back. No one wants to pay $40 for a game and then have to correct the programmer's mistakes."

In fairness, what might first have looked like a rip-off may have resulted from unintentional foul-ups. Owner/designer John Bell is now making a sincere effort to untangle the mess. Copies of the game in the stores today are reportedly error-free. Undoubtedly, gamers who bought defective ones will find Crystalware anxious to rectify any problems.

Sands of Mars begins in a spaceport where a captain (the player) has just secured financing to buy supplies and hire a crew for a trip to the Red Planet. The crew travels to the launchpad in a truck, gets out and walks toward the waiting rocket. The playfield then shifts to a representation of the ship's bridge, where a viewscreen provides instructions for take-off.

By this point, the typical gamer is drooling over the marvelous graphics. After the blast-off, the ship navigates through a beautifully rendered version of outer space. But when it finally reaches its destination, the game sinks beneath the Martian sands, carrying all its bright promise with it.

The Martian phase of the game is provided on a separate disk, and the arcader will realize instantly just **how** separate once the program loads. The visuals in this section suffer badly in comparison to the treats contained in the first half of

Sands of Mars. Once on Mars, the player solves the mystery and heads home bitterly disappointed.

In **The House of Usher**, a graphically enhanced adventure, the electronic explorer has the run of a mysterious mansion populated by over 100 different monsters. The mystery to be solved during the course of a rambling tour of the 40-room chateau is explained in the instruction folder that comes with the game. Unfortunately—and utterly inexplicably—this crucial information is printed in French.

An exotic Arabian bazaar is the starting point for **Beneath the Pyramid**. There the intrepid arcader may buy the supplies needed for an expedition to the nearby pyramid.

Once within the stone walls of the mighty tomb, the adventurer is free to wander through four levels, each composed of a different maze, in search of a golden cat idol.

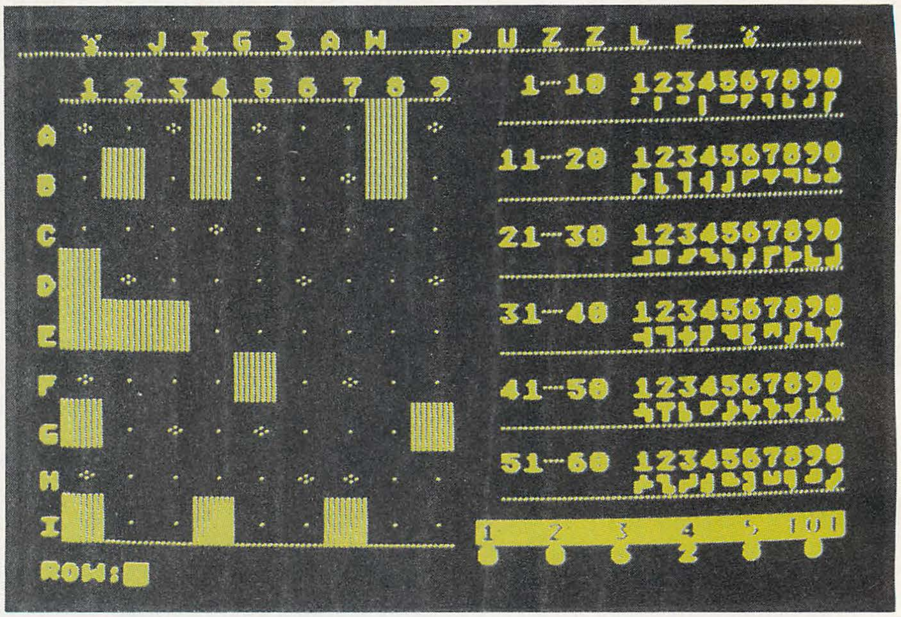
The latter two games make better-than-usual use of Atari's strong graphics and contain no glaring programming fiascoes in their current editions. While **House of Usher** and **Beneath the Pyramid** are a little more expensive than some software, they are also of higher quality. And all arcade addicts will want to keep an eye peeled for future Crystalware releases, because this company may well give us some sensational games once it gets its act together. (Frank Tetro)

Nominoes Jigsaw (Dynacomp/Apple II Plus, Atari 400 & 800 and TRS-80) a brain-teaser supreme in the form of an electronic jigsaw puzzle. Would-be solvers attempt to fit 60 oddly shaped pieces, pictured on screen at all times, into a nine by nine grid.

Nominoes Jigsaw has three levels of play, with three options available at each level. The computer generates a new puzzle every time, making it very unlikely that a duplication will occur. Once the picture is properly assembled, the program rates the solver's ability based on three factors: the amount of elapsed time, the number of guesses and the difficulty of the puzzle completed.

The audio and visual effects are quite satisfactory, and designer Jerry White has used a BASIC/machine language mix to shorten response time. Random puzzle generation is certainly a big plus, as is the posting of the current high score.

The concept of **Nominoes Jigsaw** is brilliant. This video jigsaw game is so clever and completely original that only the most hard-hearted puzzle-hater could fail to be charmed. (Frank Tetro)



Space Chase (Swifty Software/Atari 400 & 800/16K) combines a highly original design with first-rate play values to forge a certifiable computer arcade classic.

Gamers pilot an on-screen space ship around a star- and planet-studded galaxy, which is patrolled by tie-fighter-like alien craft. Up to three asteroid bases serve as launching pads for the enemy. The player must conquer all the planets by passing the space ship over them, while destroying or avoiding the tie-fighters.

The space ship has shields and can set mines, but scrolling off the screen is probably the best defense. The patrol ships can't pass beyond the boundaries of the galaxy, while the gamer's craft can exit the screen on one edge and return via the opposite one at will.

Space Chase becomes progressively more difficult as the action continues. Only one asteroid base is active in the first round, two in the second and three in each one thereafter. A base will automatically send out a new patrol ship as soon as the arcader destroys the previous one. When all three bases are pumping out those tie-fighters, **Space Chase** gets pretty wild.

Designer Fernando Herrera has given this game better sound and graphics than all but a handful of computer software products. For a BASIC language program, **Space Chase** has surprisingly quick joystick response. This goes far to make a dexterity game like this an enjoyable arcading experience. (Bill Kunkel)

War at Sea (Custom Electronics/Atari 400 & 800/16K cassette or 24K disk) brings the boardgame classic **Battleship** to electronic arcading. Video admirals lob shells at a 10 x 10 grid—and then bite their nails waiting for the computer to fire back.

After the human player and the computer have keyed in the initial positions of their fleets, play procedes in the familiar, alternating turns manner.

Every vessel can withstand two to five hits. The exact number, as well as the current damage status of every ship, is indicated by a summary printed to the right of the actual playfield.

Althought the pictures are nothing special, the designer has gone to unusual lengths to provide the game with appropriate audio accompaniment. This starts with an opening chorus of "Anchors Aweigh" to put the arcader in the proper mood and continues through the whole game. Torpedoes, for instance, are launched with a satisfying "whoosh!", and the metal fish can even be heard cleaving through the water toward their targets.

Those who like the original boardgame—a group that certainly includes many young gamers—are bound to enjoy **War at Sea.** (Bill Kunkel)

Alien Rain (Broderbund/Apple II/48K) is a dynamic home arcade version of the coin-op hit, **Galaxian.** Players fire at the bat-like alien invaders with a horizontally mobile spaceship situated on the lower edge of the playfield.

Unlike original **Space Invaders,** the creatures here don't merely jiggle from side to side waiting for a sharpshooter to mow them down. The aliens will suddenly sprout huge wings, break formation and execute a dive-bombing run against the harried defender.

In terms of its sound and graphics, this program is just about at the commercial arcade level. It falls short only in its execution speed, which is slightly slower than **Galaxian** fans really like. Nonetheless, **Alien Rain** is currently the best available home edition of this highly popular coin-op classic. (Bill Kunkel)

Asteroid Field (Cavalier Software/Apple II/48K) attempts to bring the excitement of **Asteroids** to Apple owners. This is not an easy goal to accomplish, much harder than translating **Galaxian** into microcomputer form. That's because **Asteroids,** in its coin-op incarnation, uses the quadrascan monitor to perform some of its most ingenious electronic miracles. A computer game, however, must operate within the limits of ordinary rasterscan monitors.

Which makes **Asteroid Field** an even greater triumph for Cavalier. It can't be exactly like the coin-op version, but it's close enough to satisfy even the most discriminating arcader.

Play procedure should be familiar to just about everyone who likes electronic amusements. The gamer pilots a ship threading its way through a region of outer space overrun with debris. The ship can be rotated either clockwise or counter-clockwise—or the pilot can apply thrust to move it forward. The idea is to blast any asteroids that get in the way, making low-scoring large rocks into the high-point-value tiny ones in the process. (Bill Kunkel)

Mystery Fun House/Adventure #7 (Adventure International/Atari 400 & 800, Apple II, Sorceror and TRS-80) is, obviously part of the on-going series of text adventures by Scott Adams which has already reached its 10th installment. In a sense, these programs, which have no computer components, are like radio in comparison to videogame's TV. Still, they can give gamers who like solving tricky puzzles many hours of fun.

Actions are initiated using simple commands. Usually, these short messages are typed into the computer in the form: verb noun. For instance, the monitor prints out the fact that the player is standing in a room containing only a desk. The order "Look desk" would produce a sentence of reply from the machine indicating that there is a note on the desk. Following this up with "Read note" results in the computer spitting out the message contained in the note.

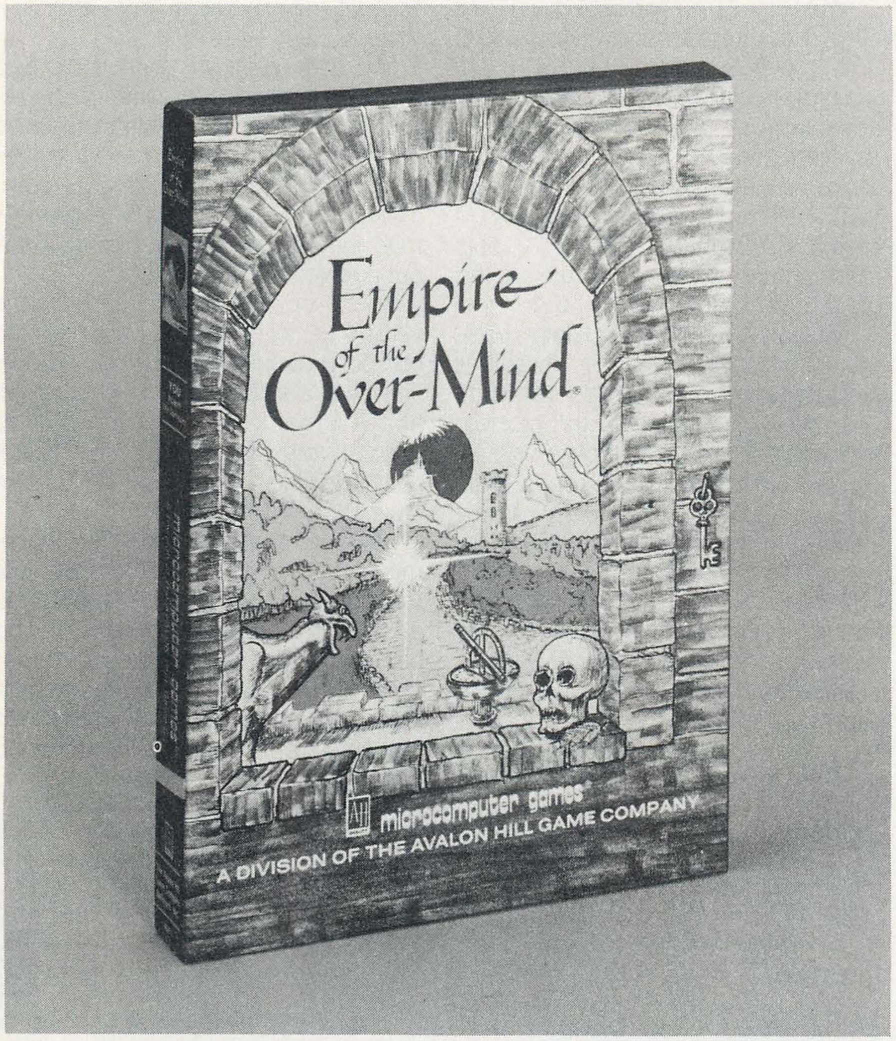
Mystery Funhouse requires the arcader to retrieve a set of hidden plans from their resting place somewhere in the funhouse. Of course, accomplishing the feat may not be quite as easy as it sounds . . .

The game display is divided into two fields. The upper one summarizes present location, possible directions of future travel and objects visible at the time. The other reproduces the gamer's commands and, thanks to the game's machine language programming, prints out answers fairly quickly.

The instructions provide a list of the verbs that will elicit a response from the computer during **Mystery Fun House.** This is, in a sense, a hint to the players about what will work—and what won't (Scott Adams has recently made available hints that provide more concrete help if you get stuck.)

Mystery Fun House is not recommended for beginners. The puzzle is a tough enough nut to crack without the additional handicap of not knowing the basic procedures of text adventuring. For those who know their way around such fantasy realms, however, **Mystery Fun House** should provide a rousing good time. (Frank Tetro)

007
MYSTERY FUN HOUSE
MYSTERY FUN HOUSE 007
ADMIT ONE 1¢
ENTER AT YOUR OWN RISK
DEAR JAMES
P.S.
xxx M



Empire of the Over-Mind (Avalon-Hill/Apple II, Atari 800, Pet and TRS-80) refutes the notion that only dexterity games can be exciting. It's certainly true that graphics and sound enhance play to a great extent, but this super-duper text adventure packs a full measure of thrills although it has neither. In fact, most players will want to turn off the volume on their television sets so they won't be distracted by irrelevant beeps and boops. (Of course, putting the soundtrack from "Lord of the Rings" or "Empire Strikes Back" on the stereo to set the proper mood isn't a bad idea, either.)

The object of **Empire** is to seek out and destroy the sinister Over-Mind. This mysterious intelligence has bribed, conned and muscled its way to control of the kingdom—and the adventurer is mankind's last hope.

Saving humanity is accomplished, as in most such games, by journeying from place to place within a intricately detailed realm, solving puzzles, finding treasure and enlisting allies. This program puts would-be heroes in some awfully tight spots at times, and it is certain to take many run-throughs before the electronic champion is ready to fulfill his mission.

The instruction booklet for **Empire of the Over-Mind** is, frankly, nothing to write home about. This is too often the case with computer adventures. Frequently it's that a software company has acquired much more skill at creating a playable program than in writing rules. Considering the expertise available at A-H—the number-one publisher of adult strategy games—it ought to be possible to provide gamers with a little bit more detail about the fantasy world they're about to enter. It must be admitted, though, that the rules are at least complete, if not exhaustive.

Empire of the Over-Mind is a splendid evening's entertainment for the solo player—or for a group of back-seat adventurers, if you've got a crowd in the livingroom. (Frank Laney)

Dino Wars (Radio Shack/TRS-80 Color Computer/4K) will amuse those who can get past the fact that it lacks the scintillating graphics used in software designed for some of the other home computers. **Dino Wars** pits two arcaders against each other in an aggressive, law-of-the-jungle fight for survival.

Dino Wars is a video game exercise in maneuvering a clumsy cartoon beastie into position to bite the other one on the neck from behind. In fact, just roar at the rival saurian from the proper position, and it yawps and falls right over with a great thump—and the fallen dinosaur's human master loses 20 points.

The dinosaurs, colored red and blue, are shown on the screen in six basic positions: direct right or left, forward right or left and back right or left. Each stance is shown in varying degrees of resolution, depending on how close to the foreground the creature is. Considering that all curved lines are definitely stair-steppy, the designer has endowed the dinosaurs with an amazing amount of personality.

By using the joysticks—which don't have the customary automatic centering feature—the dinosaurs can be moved about the playfield in three dimensions. The combatants, who begin the contest with 100 points, must be near each other on the screen and roughly the same size to land telling blows.

Cacti located toward the background of the playfield present a hazard to the dinosaurs. The brutes tend to fall down when they blunder into one, causing a five-point deduction. What's more, a downed dinosaur is vulnerable to its foe's bite and roar.

Dinosaurs can move off-screen at any time. The screen slowly pans after one—or both—of them, while a clip-clop sound represents the out-of-sight activity. If a saurian continues to travel in the same direction while outside the playfield, it eventually re-enters the screen from the opposite edge. The game ends when a dinosuar has lost enough fights—or bumped into enough pesky cacti—to use up its stock of points. The action immediately stops, and the defeated dinousar lumbers into the distance, squawking sorrowfully. The title page then returns. It presents a listing of how many games each dinosaur has won during the entire play session then in progress. —Ross Chamberlain ★

Update: The Gamier Apple

Despite manufacturer non-interest, the Apple II remains one of the best gaming computers around, thanks to the river of software flowing from the third-party software producers. Although unit sales of such computers as the VIC-20 and Atari 400/800 will certainly surpass Apple's total, it is still the system for which a hot new game is most likely to be designed at this point.

Raster Blaster (BudgeCo./Apple II/48K) is the first computer simulation of a pinball machine that delivers what it promises. When immersed in an actual round of play, it is easy for the gamer to forget that 'Raster Blaster' is only an image on a television screen.

Immediately upon completion of the booting process, a stunning array of flashing lights and electronic "neon" greets the player. Arcaders can then choose to either play alone or against up to three other pinballers.

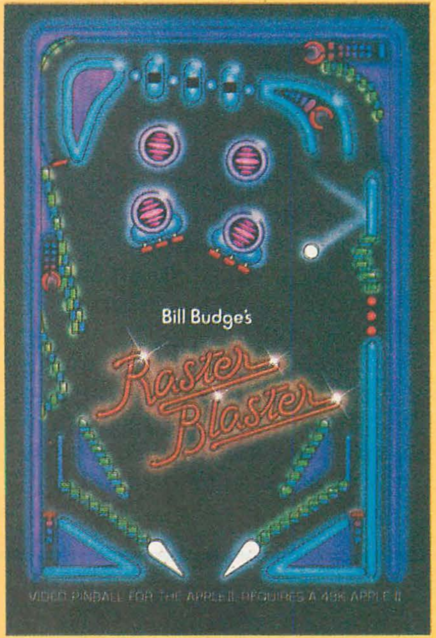
There are two levels of difficulty, and most folks will want to begin with the easy one. The ball has less chance of falling by the wayside, giving gamers a chance to get the feel of the "table."

The game is played using a pair of paddles. The action buttons had better be in good working order, too, since they serve as the controls for the flippers.

As with any pinball machine, the object is to beat the game for all it's worth. The geography of the playfield provides plenty of action—and lots of opportunities to prove your flipper-game mastery. In particular, the four bumpers located near the top of the field are very lively. The two lowest bumpers sport flags that blink when hit. Turning them on is worth 5,000 points and causes 'Raster Blaster' to energize its claws.

The machine's grabbers can hold two balls on the table indefinitely, until the third one is also caught. Then it creates a storm of chaos by releasing all of them, much like a real pinball machine, **Fireball.** This also earns the arcader a 15,000-point bonus, so the mayhem is not without some rhyme or reason.

Illuminating the three flags on the right hand side of the field lights an orange "B" and tacks 10,000 points onto the score. The final hurdle to conquer consists of a set of four lanes at the top of the screen. If a ball goes through all of them on the same round, an "R" lights to acknowledge the achievement, and the machine increases the arcader's total by 10,000.


Bill Budge's
Raster Blaster
VIDEO PINBALL FOR THE APPLE II. REQUIRES A 48K APPLE II

RASTER BLASTER

Bill Budge is a member of that elusive fraternity of programmers who have an incredible familiarity with the Apple's inner workings. 'Raster Blaster' seems to do some things that one would think were beyond the computer's capabilities!

Only one programming bug turned up, and it occurred only once. The ball became stuck in the right hand lane, and the game had to be re-booted to continue play. It was hard to fight down the urge to apply a little "english" by whacking the side of the television set.

Bill Budge deserves congratulations for the excellent graphics work on this program. 'Raster Blaster' is a superior effort that is packed with fun. (Leigh Goldstein).

Falcons (Picadilly Software/Apple II/48K disk), based on the popular **Phoenix** coin-op, is one of the truest renditions of a commercial arcade game available today.

The player is given three ships and must clear the screen four times before coming face-to-face with the alien mothership. The meanies constantly move and shoot, while they transform themselves into strange bird-like creatures. Pressing the space bar provides five seconds of shield protection. This must be used sparingly, however, since there is a five-second recharging period before they can be energized again.

The first wave of aliens appears in a format that will be familiar to players of alien invasion games. After the player clears the screen, the next batch emerges in oval formation. The third and fourth fields consist of small blue and orange dots that evolve into funny-looking birds, which dive and collide with great regularity.

Getting to the mothership seems like a great achievement, but in reality, it's only the beginning. This reviewer has not yet succeeded in destroying the alien nestled within the huge craft.

'Falcons' is tough. The extreme difficulty of the game lends itself to the kind of repeat playing characteristic of home arcading.

Pinball Goes Video!

One important plus is that the game is programmed to play using joystick, paddle or keyboard input. When employing the paddles, the gamer must press the space bar to activate the shields, and this gets to be a little clumsy. With the joystick, however, the shields work off the second action button, which makes for a more enjoyable game. (Leigh Goldstein)

Timebomb (Swifty Software/Atari 400 & 800/16K cassette) is a re-working of a concept first introduced by Swifty's own **Space Chase.** In both, an on-screen object collects items spread across the playfield while avoiding pursuit. In 'Space Chase,' arcaders conquer planets while fleeing from tie-fighters. Rows of aircraft that enter the screen from both sides provide the menace that attempts to frustrate the gamer's gathering of "depots" in 'Timebomb.'

The main point of interest is the amazing number of difficulty options designer Fernando Herreras has included. There are five daylight and five nighttime missions, three sizes of airplanes and three possible aircraft speeds. (In the dark, enemy planes can only be spotted when they pass directly over one of the depots.) No one is going to tire of this game because it's too easy!

The graphics are the biggest drawback. The airplanes are realistic, but the depots are just big blue blocks and the cursor is, well, a cursor. It's really a shame the designer didn't spice up the game by making the depots look like something.

Up to four can compete. An excellent feature is that the program prompts each gamer in turn and will not initiate play until one presses the action button on the joystick. The gamer can then select the desired difficulty options and get going.

It may not be quite up to 'Space Chase,' but this cassette does have its charms, most notably the explosive devices alluded to in its title. The game opens with "Tick, **tick, TICK**" appearing both on-screen and on the accompanying audio track. The field then bursts into several alternating colors and the menu comes up.

The ticking resumes when the action starts, emanating from large red blocks about the same size as the depots. The computer keeps track of the number of depots collected as well as the time remaining before the screen blows up **real** good, as they say on "SCTV Network 90."

The constant ticking, the dwindling clock and the steady stream of enemy aircraft combine to make 'Timebomb' a genuine nail-biter. (Bill Kunkel)

Sneakers (Sirius Software/ Apple II/ 48K disk) doesn't present a wildly innovative play-system, but it certainly wrings the most out of essentially familiar elements. The concept: Players fire at a field of moving tragets with a horizontally mobile cannon.

This barebones description makes 'Sneakers' sound like any of a hundred programs that draw inspiration from good old **Space Invaders.** But oh, the execution! It would be hard to find a more captivating contest. Mark Turmell is not a professional game inventor, but his performance here shows that there's plenty of room for the talented amateur in electronic gaming.

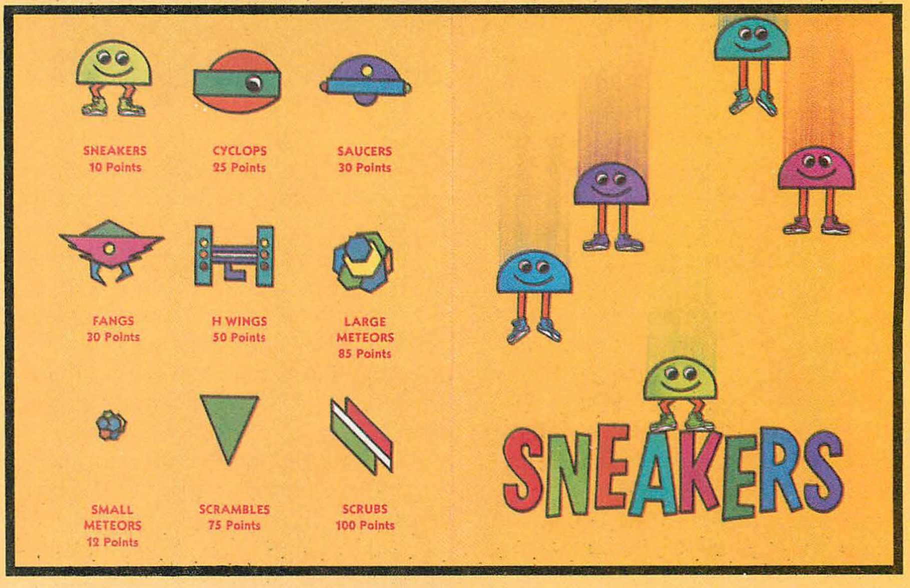
'Sneakers' is one of the first multi-playfield games to reach the home arcade market. In light of the popularity of such games in amusement centers, it's not likely to be the last, either.

Each of the eight phases challenges the arcader's skill in a slightly different fashion. Instead of shooting at the same sort of target at ever-increasing speeds, the player must confront eight different creatures with as many styles of attack.

Turmell has obviously lavished a lot of attention on the target-monsters, and they are the chief attraction. Rendered in an engagingly cartoony style, the Sneakers, Cyclops, Saucers, Fangs, H-wings, Meteors, Scrambles and Scrubs are nearly as loveable as they are deadly. If this fellow isn't the Disney of computer gaming, he'll do until the real thing comes along.

The rest of the visuals are up to the same high standard. Between each of the five rounds that constitutes a complete game, a huge mothership slowly

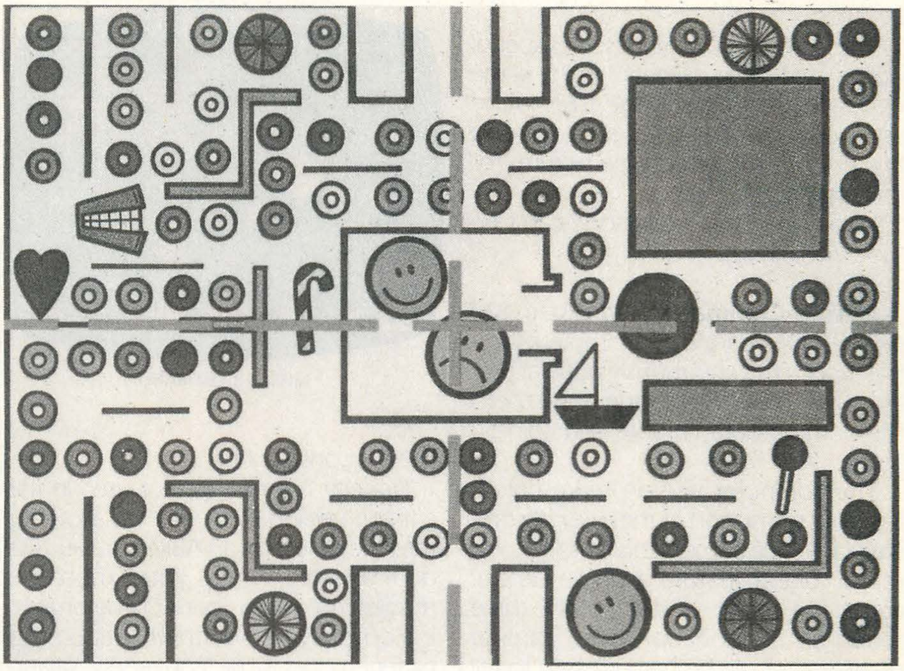
SNEAKERS



lands, extends its gangplank and deposits the next cannon. 'Sneakers' also features an attract program similar to the ones that lure players to the coin-op devices. Not exactly necessary for a home arcade game, admittedly, but the designer can be forgiven this bit of self-indulgence. It does, at least, give a quick visual synopsis of the scoring sytem.

'Sneakers' probably would have been even better were it not for some of the Apple II's intrinsic limitations. The tiny speaker in the computer is simply not up to producing a "big" enough sound to mimic the commercial arcade machines as the designer obviously intended. The sluggish mechanical action of the Apple paddles doesn't help much either, especially when the player must fire rapidly against the Cyclops, H-wings and Scrubs.

Yet even with these minor shortcomings, there's no question that 'Sneakers' is an outstanding program. Turmell is reportedly working on a new game, and this is going to be one very hard act to follow. (Arnie Katz)



JAWBREAKER

Jawbreaker (On-Line Systems/Atari 400 & 800/48K) introduces gobble games to the Atari computer in grand style. The theme of this machine-language program is a spree in a candy store. The arcader steers a mouthful of chomping teeth around the maze-like establishment, gulping down all the little "wifesaver" hard candies in the aisles.

A gang of four brightly colored bullies tries to spoil the fun by chasing you around the store and attempting to bash out all those pearly teeth. One special sweet in each corner of the store is a special energizing jawbreaker. For a brief period after one is eaten, the chompers have the strength to turn the tables on the rowdies and gobble them up for extra points. The bullies turn gray during this crucial interval, and their leering smiles change to frowns to show their displeasure at getting chased hither and yon by the arcader's gulper. After all, what bully likes to get a taste of his own medicine?

Once a bully is eaten, its ghost floats back to the corral in the center of the playfield, where it resumes its normal belligerent activities. All the bullies begin to flash their true colors when their period of vulnerability is about to come to an end, giving the gamer a warning that it's time to start avoiding them again. In addition, special treats occasionally appear, as if by magic, in the aisles. They range in value from 100 points for a lollypop to 500 for a toy boat. (Who eats a toy boat? Maybe it's one of those wax-coated candies.)

"By far the most extensive usage of Atari Graphics to date" proclaims the colorful and clever instruction folder. Designer John Harris can be forgiven this attack of egotism, because 'Jawbreaker' does, indeed, set standards for computer game visuals. For instance, when the player succeeds in clearing the store of wifesavers, the machine sends out an animated toothbrush to scrub all the incisors, molars and bicuspids for the next round.

The audio portion of this electronic pig-out isn't too shabby, either. The game opens with a multi-voice rendition of "The Candy Man" and subsequently offers a wide variety of eating and chewing noises that are well matched to the theme.

Since each round of play is progressively more difficult than the last, it is important to take advantage of all the scoring opportunities. A little practice with the joystick will produce enough skill to stay away from the bullies most of the time, but the arcader should attempt to lure the smilers closer to the chompers just before eating one of the special jawbreakers. This will enable the teeth to gobble up two or three of them before they can flee out of range without diverting too much attention away from the main business of clearing the aisles of wivesavers. During any given period when the bullies can be eaten, their point value depends on how many fall victim to the teeth. The first is worth 200 points, the second is 400 points and so forth, up to 800 points for the fourth.

The magically appearing goodies are less valuable compared to the bullies, and so are not worth a lot of extra effort to get. Unless one pops up directly in the gobbler's path, it might as well be ignored.

And don't get greedy about the energizing jawbreakers. Try to clear an entire quadrant of the playfield before snagging the powerful treat, or you'll find yourself with a lot of uneaten wifesavers and a pack of bullies hot on your tail. Making occasional use of the vertical scrolling feature is a good idea, because it is less perilous than the trip from the top of the playfield to the bottom through the maze. Remember, however, that the gang of four isn't too dumb to use the scroll, too. There's nothing worse than getting trapped in that corridor with a bully close behind, only to discover that a second roughneck is scrolling in your direction.

The instruction folder deserves special notice. It is fully as delightful as the game itself, presenting the simple rules in the style of one of those learn-to-read primers that substitutes little pictures for the hard words.

Who says hygiene lessons can't be fun? (Arnie Katz)

Missile Command (Atari/Atari 400 & 800/ROM cartridge) completes the hat-trick for this enormously popular program that has already done well in both the home programmable and coin-op fields.

The computer version represents a beautiful translation of the original commercial arcade game. If this 'Missile Command' didn't feature a single central command center—instead of the three found on the coin-op—even gaming gourmets would be hard-pressed to tell which one was filling the screen.

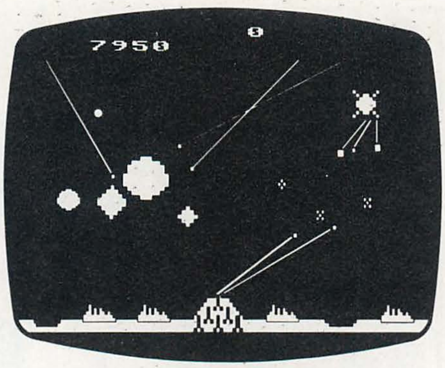
Players begin by choosing the number of participants (one or two), indicating whether scoring 10,000 points should earn a bonus city, and selecting the difficulty level at which the action will start. As 'Missile Command' fans know, the object is to fire anti-ballistic missiles (ABMs) to detonate incoming rockets before they can devastate the cities under your protection.

The enemy bombardment comes in short, but intense, bursts, each faster and deadlier than the one which preceded it. Therefore, by setting the game to commence at wave No. 10, arcaders will test themselves to the limit from the very first shot. Of course, the more difficult the wave, the higher the point value.

Cursor action is satisfyingly fast. The little aiming square flies across the screen with a speed reminiscent of the coin-op's track-ball controller. It's even possible to set up a protective umbrella of ABMs that will stop all but the mightiest weapons from striking the cities.

The always-nameless foe does have some fearsome armaments, too: ICBMs, MIRVs (multiple warhead missiles), killer satellites and bombers, and even smart missiles that can avoid or deflect ABMs not perfectly targeted.

After each attack, the computer tallies the score and displays the number of cities and defensive rockets remaining. The gamer usually uses this interval to take a few deep breaths and prepare for the next onslaught.



MISSILE COMMAND

Strategy is similar to that used in the coin-op version. Remember to allow for the time it takes for an ABM to travel to its goal and fire where you expect the missile to be when your ABM detonates. It is generally not worthwhile to protect flattened cities while, conversely, saving the two metropolises on either side of the command center should get top priority. The game's excellent instruction manual also advocates launching "insurance" missiles at the left and right ends of the playfield in hopes of catching a bomber or satellite just as it appears on the screen.

The graphics are outstanding. It's quite a sight to watch up to five different types of weapons streaking down the screen while your cursor hunts them down. (Bill Kunkel)

Galactic Chase (Spectrum Computers/Atari 400 & 800/16K & disk) proves there's truth in the old saying that you can't always tell a book by its cover. The crude illustration on the rules folder, which serves as the game's cover, is unworthy of the program inside.

Arcaders browsing the software shelves may be so put off by the package that they fail to investigate 'Galactic Chase.' That would be a definite mistake, because this disk makes an excellent addition to any Atari gamer's collection.

As the last defender of the civilized galaxy, the arcader confronts a succession of alien invasion fleets. Once the battle is joined, the attackers peel out of formation and swoop toward the bottom of the field on flared insectoid wings. The arcader fires missiles—or, in desperate situations, attempts to ram—the invaders to save mankind and, just incidently, score points. Any creatures who scroll off the bottom of the screen automatically reappear at the top and drop back into the formation.

'Galactic Chase' offers both one- and two-player options, but like most invader programs is more suited to solitaire action. There are three skill levels, though the aliens' speed and ferocity increase even within each level. At the greatest difficulty setting, which kicks in when the gamer encounters the 31st alien armada, the invaders' invisible ray partially disables the missile launcher so that the defender's weapons travel much more slowly. The program helps the gamer keep track of the number of fleets destroyed by putting a little flag for each one eliminated in the lower righthand corner of the playfield.

The arcader faces this mighty onslaught with a series of three starships. The joystick is used to move the craft back and forth across the bottom of the screen and the action button must be pressed each time a missile is to be fired. Scoring 7,000 points adds another ship to the defender's reserve fleet, as does advancing to the 16th, 32nd and 48th fleet engagments.

Scoring is tallied on-screen at the base of the playfield. The program also keeps track of the best performance during the current session—highest point total and greatest number of fleets engaged—on the same line.

The point value of the four types of attackers—ensigns, captains, flankers and command ships—holds the strategic key to 'Galactic Chase.' Each type of space creature is worth at least twice as much if hit while swooping than if it is shot out of the formation. The command ships, which count for 50 points ordinarily, can bring up to 400 points if eliminated during a bombing run at the defender.

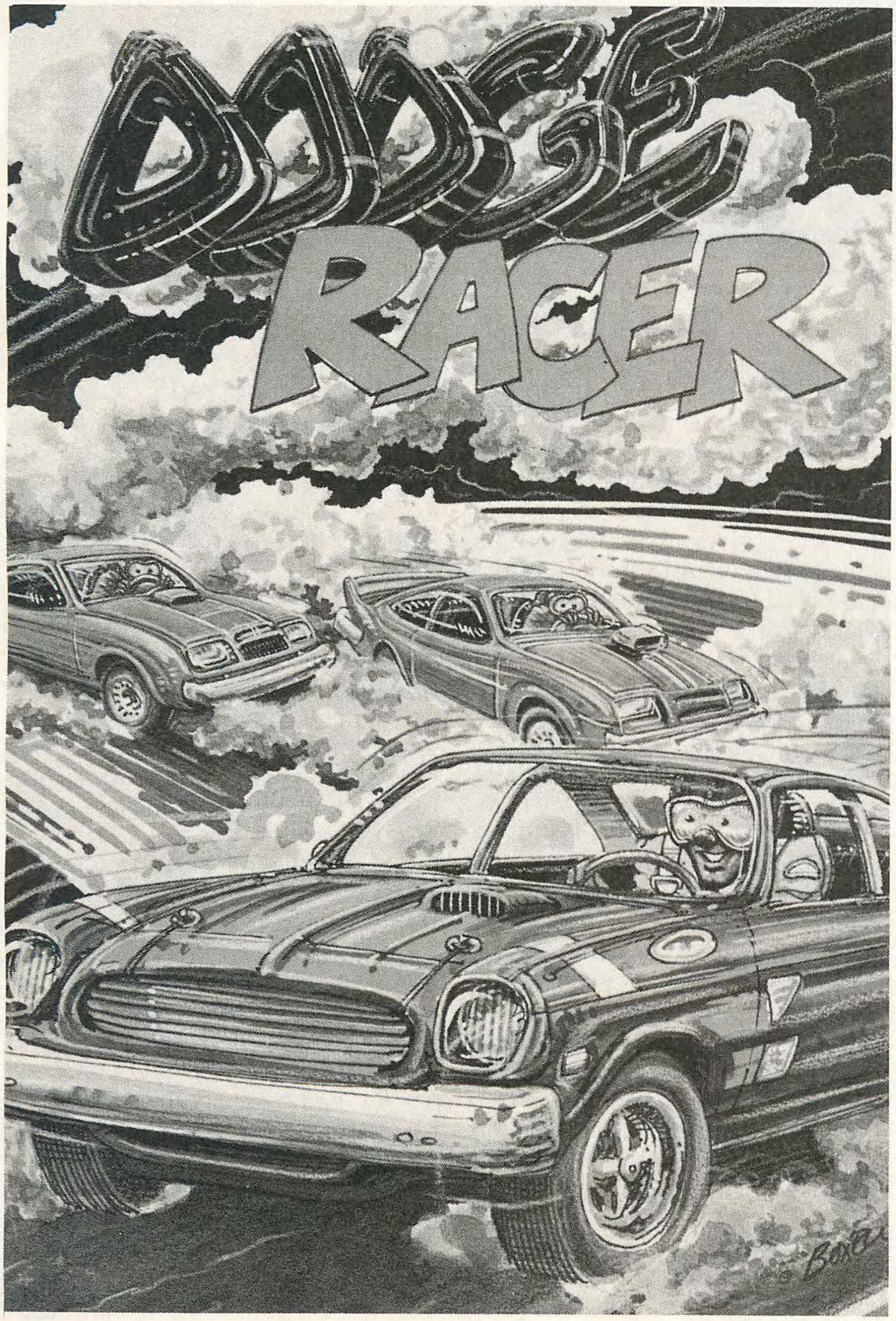
So although it's hard to resist all those stationary targets, arcaders must use will-power, Wait for the first invaders to leave formation for a lower-altitude attack before atomizing them. How high you score is a function of how long you can continue to pursue this approach before the steadily increasing number of creatures swooping at any one time overwhelms the star ship. At that point, it's every space knight for himself.

So ignore the tacky cover artwork and back into the formation, with the exception of the bonus-targets which must be destroyed before . (Laney)

Dodge Racer (Synapse Software/Atari 400 & 800/16K cassette, 24K transferred to disk) is a splendid computer version of the classic concentric-rectangle race game. Players guide cars through connecting, maze-like corridors and score by running over point-scoring objects placed at regular intervals along the roadways. The main hurdle to clearing the entire field is a human or computer-operated jam car that attempts to crash into the arcader's vehicle before too many points are amassed.

Though obviously inspired by Atari's **Dodge 'Em,** this version is clearly an improvement on its inspiration. By increasing the number of lanes to six, 'Dodge Racer' greatly reduces the chance that the gamer will develop a system. Once the arcader has a pre-planned route that covers the entire field in the shortest possible time, it takes a lot out of programs of this type. It is certainly possible to "solve" 'Dodge Racer,' but it will take most players a lot of time to arrive at a sure-fire approach.

DODGE RACER



Each player receives five cars, with reserve autos shown lined up next to the score counter in the center of the screen. Drivers rev up to the higher of the two available speeds by pressing the action button. At high speed, cars can jump two lanes instead of the customary one. This is the arcader's sole advantage over the jam car, which can never shift more than one lane at a time.

The program includes 16 variations, some of which drastically change the whole complexion of the contest. One variant replenishes the dots after every crash, while another pilots the scoring racer against **two** crash vehicles. Up to four can play, either taking turns or squaring off in a series of head-to-head confrontations.

'Dodge Racer' uses machine-language sub-routines that speed up play and juice up the joystick response. A signature tune opens and closes each game, and there's a rumbling audio track that sounds like a souped-up T-bird. Even the instructions are clear and precise. Maze/chase fans will want this one. (Bill Kunkel)

Imperial Walker (Crystalware/Atari 400 & 800/16K disk) is a mixed bag of five games—one didn't even make the listing on the package, because Crystalware only added it to later editions—that range from graphically impressive but boring to unique and imaginative.

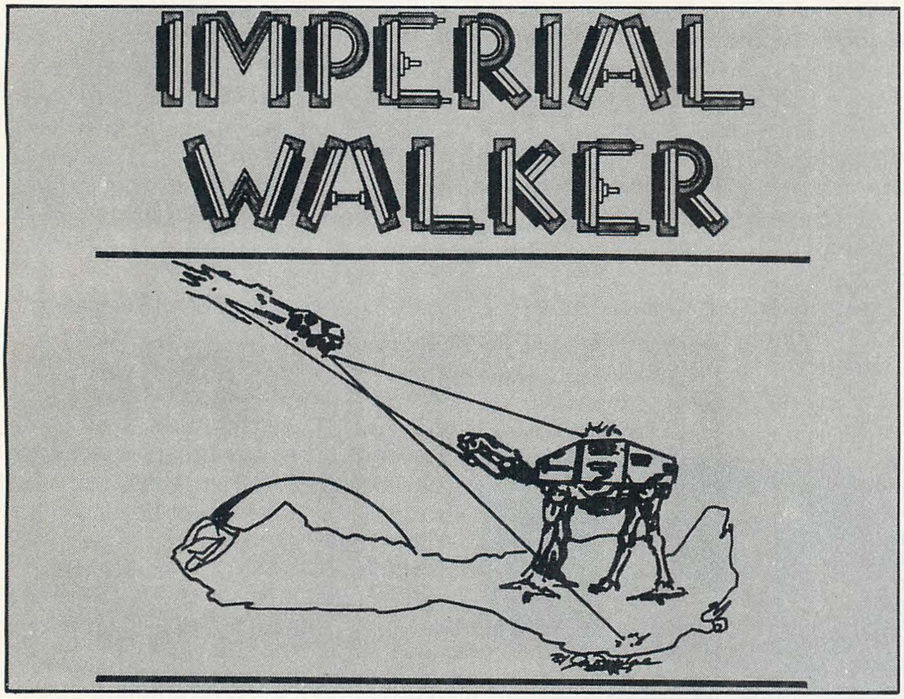
The lead-off hitter, **Imperial Walker,** is a disappointment. The walker—or At-At—of "Empire Strikes Back" fame moves through a series of stiffly animated poses, but only travels horizontally across the screen.

It certainly looks impressive, at least the first few times. You'll probably gasp in astonishment when, after the At-At brings down a tie-fighter, a tiny rebel pilot emerges, fires a harmless blast at the mechanical mammoth and runs off the screen.

A game needs more than looks, though. 'Imperial Walker' leaves a lot to be desired.

The walker can move forward or backward, shift its head into any of three firing positions and spit laser blasts from its mouth, but it can only perform one of these actions at a time. Simultaneous movement and fire is out.

Even with such a handicap, the deck is solidly stacked in the walker's favor.



IMPERIAL WALKER

While this is admittedly true to the "Star Wars" mythos, it makes the game pretty one-sided. The tie-fighter, which can be controlled by either the computer or a second human player, can only stop this armored lummox by shooting at its vulnerable neck.

The bottom line is that 'Imperial Walker's first-rate visuals mask a program that has many of the characteristics one would expect of a computerized sleeping pill.

Auto Race challenges gamers to steer cars through a treacherous maze. As a nice touch, drivers use the Atari's number keys to shift gears. Not so nice is that the programmer didn't take the time to adapt 'Auto Race' for joystick movement. Having to steer with the four directional keys makes this game much more trouble than it's worth to master.

On the other hand, those who enjoy "nim" games have got to love **Lazer Nim.** For the uninitiated, this version provides several rows of little robot kewpie dolls. Alternating turns with the computer, the arcader eliminates as many dolls as desired, but only from one row in a given turn. The object is to see who gets the last nim.

This program won't make anyone forget **Star Raiders**, but it certainly is the best version of this ancient game for the computer. The allure is all in the charming graphics: the androids resemble nothing so much as the aliens from "Close Encounters of the Third Kind."

Gunfight is a wild west shoot-'em-up, and the same thing has been done better. The colors seem rather bleak, and the bullets can be difficult to pick out against the background. The shining moment comes when a gunfighter stops a fatal slug. The computer trills a short dirge and then sets up a little tombstone to mark the spot.

Snake 'n Shake is the mystery bonus game mentioned earlier. Ironically, it's the disk's real treasure. This clever cousin of **Surround** is an abstract contest that sends gamers on a chase after a randomly appearing blue dot. The target pops into existence, stays a few seconds and then blinks to another section of the screen.

The player uses a joystick to direct a cursor that grows a longer tail each time it catches up with the dot. Running into the playfield boundary, the obstacle cross located at the center of the screen or the tail of the snake ends the game.

With some practice, skillful players will soon be hauling around a snake that's several times longer than the diameter of the field.

The trick is to pass up the dot when it's wedged into particularly tough spots and make the most of opportunities to get it when it's comparatively accessible. Be particularly on guard against running over the tail, which often happens when the arcader tries to brake or suddenly reverses direction.

'Snake 'n Shake' ranks as one of the most stimulating challenges to the hand-eye masters to come along in some time. So be sure to get the editions which include it. And if you got one of the earliest copies of 'Imperial Walker,' see if you can exchange it for a newer one. The presence of 'Snake 'n Shake' on the disk spells the difference between a questionable value and a real bargain. (Bill Kunkel)

Star Thief (Cavalier Software/Apple II/48K) is almost assured of a warm reception, because it is one of the few programs offered for the Apple that two people can play simultaneously. Based on the coin-op success, **Ripoff,** the general object is to keep the aliens from stealing the pulsating pods.

The game starts slowly, but the action heats up significantly as it progresses. Each participant is armed with phasers to shoot at the multi-colored and swift-moving aliens, who fire back and gobble up the pods as they fly. Controls function exactly like **Asteroid Field,** Cavalier's previous entry. Pushing the paddle button rapidly discharges the phasers, while holding it down applies thrust to the ship.

The concept is straightforward: Blast the enemy to smithereens before they can clear the field of pods. The game ends when both players have been killed and all the pods are gone. Some of 'Star Thief's' best moments come when the pods are gone, one player is out of commission, and the survivor battles to the death with the invaders.

Avoiding the corners is guaranteed to keep you in the game longer, because that's where the aliens materialize. Shooting through the sides of the screen, using a technique reminiscent of one facet of strategy for **Asteroids,** is quite legal—and very effective. Players are allowed to team up to form a united front against the hostile star thieves, or they can go it alone.

Whichever way it's played, 'Star Thief' is sure to appeal to arcaders looking for another outlet for a strong destructive streak. (Leigh Goldstein)

Update: What Price Computers?

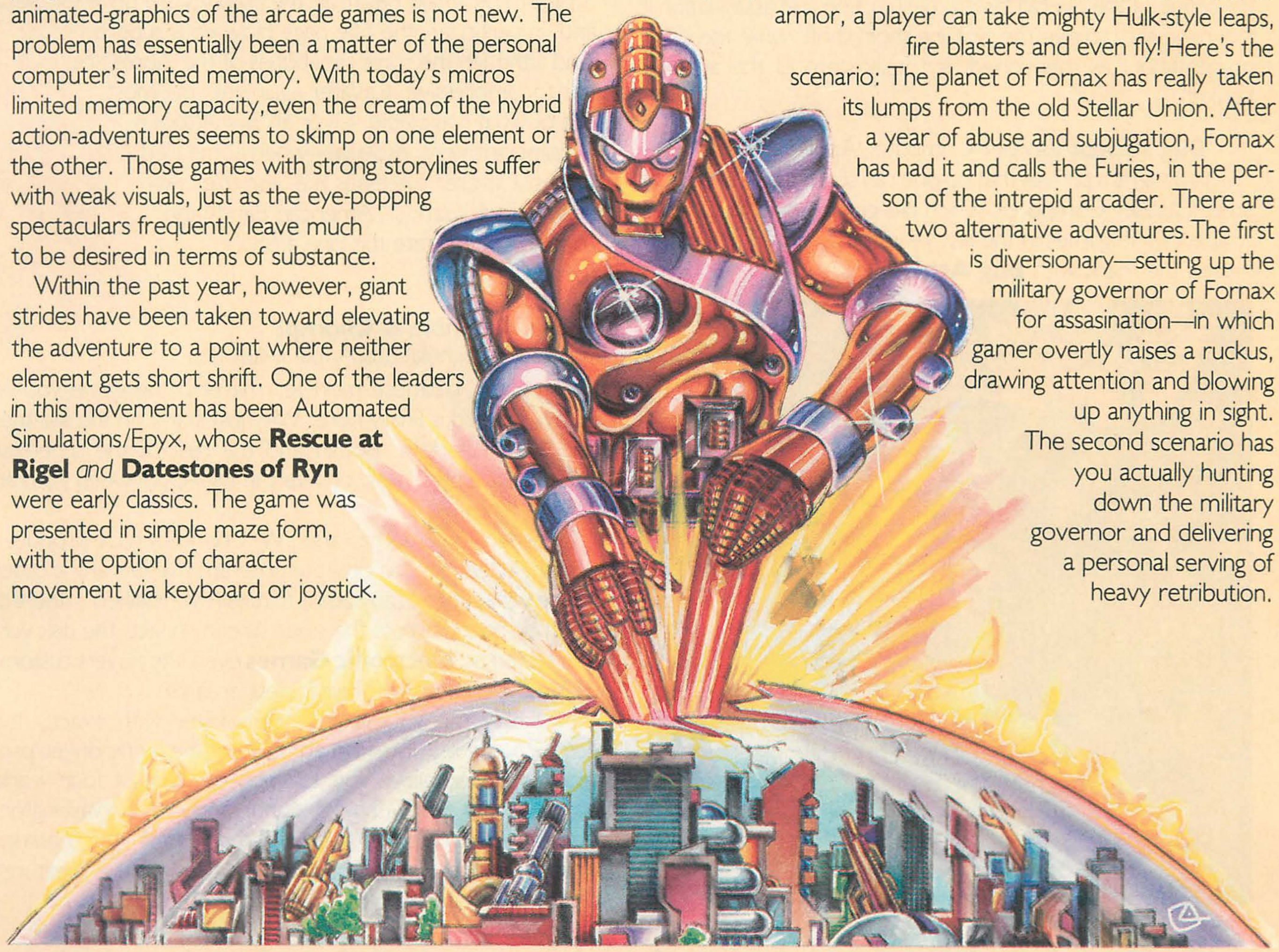
Everyone knows that, thanks to inflation, the price of everything goes up every year. Fortunately, this "truth" doesn't apply to computers. Hot competition and technological advances are combining to bring the price of home computers down, down, down. Two years ago, the under-$1,000 system was a marvel, but you can get a micro today for a good deal less than half of that.

Star Warrior/Epyx/
Atari 400 & 800/32K Ever since the first electronic gamer sat down before a video-generated text adventure, imagination soaring into realms of heroism and wizardry, the desire has existed to actually *see* the mystical and action elements taking place out on the screen.

The concept of cross-breeding sophisticated adventure programs with their puzzles, mazes and traps with the animated-graphics of the arcade games is not new. The problem has essentially been a matter of the personal computer's limited memory. With today's micros limited memory capacity, even the cream of the hybrid action-adventures seems to skimp on one element or the other. Those games with strong storylines suffer with weak visuals, just as the eye-popping spectaculars frequently leave much to be desired in terms of substance.

Within the past year, however, giant strides have been taken toward elevating the adventure to a point where neither element gets short shrift. One of the leaders in this movement has been Automated Simulations/Epyx, whose **Rescue at Rigel** *and* **Datestones of Ryn** were early classics. The game was presented in simple maze form, with the option of character movement via keyboard or joystick. On-screen adventurers are directed through the overhead-view corridors, battle monsters, examine treasure chests and rescue imprisoned fellows.

With the advent of the Starquest series, however, graphic adventures have moved into far more sophisticated territory. Star Warrior presents the gamer as an on-screen avenger known as a "Fury", paladins who wear highly-advanced and weapon-packed exo-skeleton. Inside this futuristic suit of armor, a player can take mighty Hulk-style leaps, fire blasters and even fly! Here's the scenario: The planet of Fornax has really taken its lumps from the old Stellar Union. After a year of abuse and subjugation, Fornax has had it and calls the Furies, in the person of the intrepid arcader. There are two alternative adventures. The first is diversionary—setting up the military governor of Fornax for assasination—in which gamer overtly raises a ruckus, drawing attention and blowing up anything in sight. The second scenario has you actually hunting down the military governor and delivering a personal serving of heavy retribution.



The graphics here are nothing short of stupendous. The on-screen Fury passes over several types of terrain, encounters a wide range of enemy vehicles and installations (both military and civilian. It may be neccessary to actually fly right over the fortress itself to distinguish one from the other. The various installations are rendered in multi-colored detail and explosions are depicted as slowly blossoming mushroom clouds.

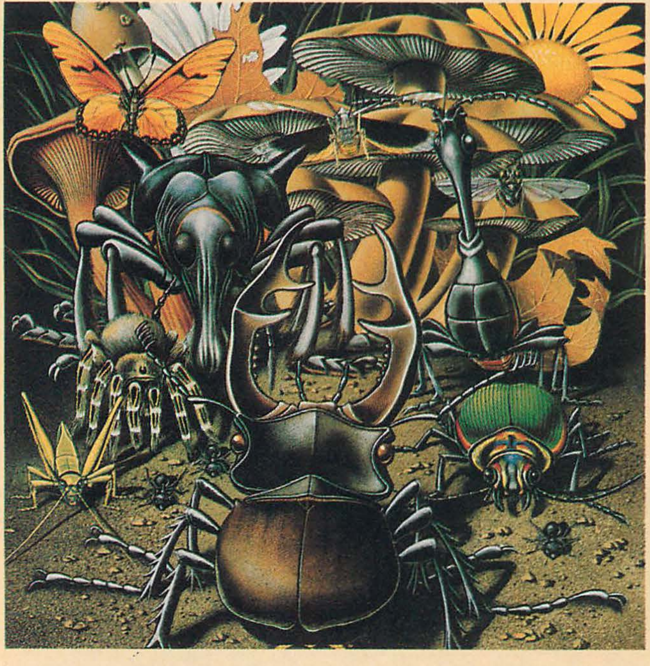
The gamer's weapons include blaster and powergun, to knock out small armored assault vehicles—and missiles, which are for use against military forts and installations. Missiles are aimed through the use of a numbered multi-directional compass ("1" is north, "2" northeast, etc.). All instructions are input via the keyboard and are broken up into movement, combat and special type commands.

The on-screen display not only offers an impressive, slightly-angled overview of the sector but lists wounds, energy, charges, missiles and time in addition to constantly updated status reports on shields, wounds, sensors and the nearest enemy unit.

Star Warrior is an adventure for lovers of action-arcade games that will also delight quest-loving arcaders. By limiting the scope of the overall task to destruction and assasination it is unnecessary to give the plot line short shrift, while the visual presentation, as mentioned, is totally state of the art. (Bill Kunkel)

Bug Attack/Cavalier Computer/Apple II/48K disk

This program proves that no one can score a bullseye every time. Cavalier Computer, which has given Apple II owners a couple of fine games in the last year or so, has unfortunately missed the mark with **Bug Attack.**



Clearly modeled on Atari's coin-op, **Centipede,** *Bug Attack* just doesn't offer enough of the features that make *Centipede* such a great game. Leaving aside the issue of how close an imitation is too close, it is reasonable to suppose that a designer starting with a terrific game for inspiration should go on to produce at least a good one. *Bug Attack* is dull gaming.

Centipede's great sound effects and vertical movement are entirely missing. Instead, the player is "treated" to the strains of "When Johnny Comes Marching Home", perhaps less than appropriate accompanyment to the action. All the arcader has to do is avoid the falling knives and blast the centipede-like creatures that populate the playfield.

The game begins with a colorful title page and a huge explosion. Little insectoid critturs move across the top of the field on funny little legs, dropping knives as they scuttle along. Movement by the bugs is slow and tedious, and most action-game fans should have little trouble dispatching them whether controlling the friendly beetles with paddle or keyboard.

After the player completes the first wave, the program awards bonus points, shifts the color of the surrounding plants and sends in the next wave of attackers.

Not to be totally negative, the graphics are quite excellent and, in particular, the title page blow-up is superb. And although the sonic capabilities of the Apple are not too impressive, Cavalier again gets the most out of what's available. Over all, *Bug Attack* is a disappointment, especially when compared to past Cavalier successes like *Star Thief*. As kids on Dick Clark's "American Bandstand" used to say, "I rate this one a 65." (Leigh Goldstein)

Crush, Crumble & Chomp!/
Automated Simulations/Apple II/48K disk

Attention, Japanese monster mavens, the game you've always wanted is finally here. Why just stand on the sidelines and watch Godzilla, Rodan and the rest of the superstar creatures topple Tokyo or bite the Big Apple when you can join the fun?

Designers Jon Freeman and J.W. Connelley have produced a lighthearted, easy-to-operate program that lets any arcader be the very image of any beast that has ever stalked, slithered, flown or oozed across the silver screen. In fact, the disk version tested by **Electronic Games** even lets players custom-design the creature of their foulest dreams.

Not only can you select the monster with exactly the destructive ability you most admire, but the menu-driven program will even allow you to choose which of four world capitals—New York, Tokyo, San Francisco or Washington, D.C.—will crumble into rubble in the face of your inhuman wrath. A range of five possible objectives for the creature allows precise tailoring of any scenario.

Crush, Crumble and Chomp! is a solitaire strategy game. The player enters commands using one-letter codes in response to an on-screen prompt. Orders cover such diverse activities as grabbing humans, stomping buildings or spewing flaming death at the National Guard. The computer then moves all the puny humans, indicates how fires spread and, in general, orchestrates the activities of the creature-hunters.

Dexterity game fans will find *Crush, Crumble and Chomp!* incredibly frustrating. The creatures are, in general, lumbering behemoths who change direction only with the greatest reluctance. There are also many times when the prey you've stalked so carefully flees just before you can scoop it up for dinner. A monster's lot is not necessarily a happy one.

Although *Crush, Crumble* has a violence quotient that might be objectionable in a realistic, seriously intended game, here it is clearly all in fun. Nevertheless, it is far from a cakewalk for the creature. The monsters are powerful, but the human forces outnumber them so overwhelmingly that the inevitable end of each scenario is the death of the beast. Causing the maximum possible amount of havoc before biting the dust is the goal.

Jon Freeman deserves extra credit for his outstanding job on the instruction book. Automated Simulations often tries to convey the flavor of the program in the rulebook, not always to the benefit of the arcader hoping to learn a new game. Freeman manages to provide all the needed information in clear, organized form while maintaining the humorous tone so vital to *Crush, Crumble*. Automated has also gone out and hired an artist, George Barr, whose charming, high-quality illustrations dress up the booklet quite a bit.

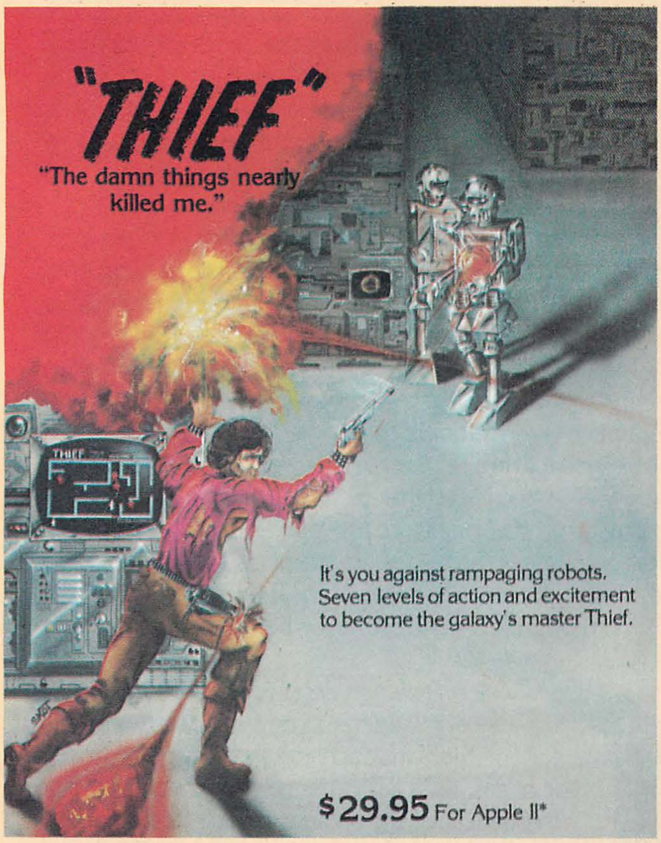
Crush, Crumble and Chomp! is offbeat, fascinating and—most important—a solidly constructed strategy game that will be more than just a seldom-played curio in your collection. (Arnie Katz)

Thief/Datamost/Apple II/48K disk

Thief is one of the finest maze-shoot-out programs, a type of game pioneered by **Berserk**, available for home use. In fact, if it could talk, this might be the best arcade game of any type available for this popular computer system.

The goal in *Thief* is to rescue a compatriot who is wounded somewhere on the seventh level. The arcader employs the joystick or paddle to move the on-screen character from room to room—seen in overhead perspective—killing the robots that seek to bar the way.

The first level (of seven) is easy. The robots move slowly


"THIEF"
"The damn things nearly killed me."
It's you against rampaging robots. Seven levels of action and excitement to become the galaxy's master Thief.
$29.95 For Apple II*

and don't fire back at the player. As the difficulty factor increases, the robots develop quick reactions and discharge intense laser fire. Each succeeding level of difficulty is indicated by a change in the color of the walls.

The player begins the game with three men, though an extra can be earned by amassing 2,000 points. A thief is destroyed by the robots' laser beams, collision with a wall or the touch of the unearthly blob. This smiling stalker appears on the screen when the character has stayed too long in one room. It zigzags across the field, destroying all in its path.

This well-animated game plays extremely fast. Many arcaders, this reviewer included, will have trouble getting very far into the third (orange) level of difficulty. The joystick is well-integrated into the game, and it is easy to move and fire quite rapidly.

Unless you've got the reflexes of Mandrake the Magician, it will be necessary to take full advantage of every aspect of the game. This most definitely includes the unearthly blob. Since the bouncing face always enters from the left-hand doorway, it is possible to station the thief directly in front of the right-hand exit and have the blob disintegrate all the remaining metal men. Be ready to scoot, though, because the unearthly blob doesn't mind a thief for dessert after one of its robot feasts.

Since bonus points are awarded for leaving a room swept clean of robots, it is important to combine speed and thoroughness. Shoot as many androids as possible, let the blob have the rest and zip into the adjoining room for the next confrontation.

Thief is a superb game—and highly recommended. (Leigh Goldstien)

Shooting Gallery/Analog/
Atari 400 & 800/16K cassette

Starting out as a user's group magazine for owners of the Atari computers, A.N.A.L.O.G. has now jumped into the software-producing market with both feet. Its initial trio of releases range from fair to excellent, but all show promise and a real touch for getting the most from the Atari graphic generators.

Shooting Gallery is a BASIC program with machine language sub-routines. Unhappily, the tape is *not* loaded via "Cload", but rather by typing "Run: C", and will not load when any disk drive or other peripheral is attached to the computer. Since our copy proved an ordeal to load, the ability to transfer the program to disk would be a real boon. It's understandable that the manufacturer does not wish to see its programs pirated, but there is more than a touch of hypocrisy involved. Unless, of course, A.N.A.L.O.G is paying royalties to Sega/Gremlin for **Carnival,** which is the obvious basis of this game.

Shooting Gallery is just that. Owls, bunnies, ducks, etc. appear at the top of three rows and slide across the playfield, moving down a row if they are not hit until they reach the very bottom horizontal column. Players manipulate a six shooter across the bottom of the screen, firing up at the various targets with available bullets symbolically represented in the lower left-hand corner of the display. If the ducks reach all the way to the bottom, they devour several of the player's remaining bullets.

Among the more exotic targets are the clay pipes. They also move across the top of the playfield and must all be eliminated to clear the targets and get a shot at the bonus bear. There are also targets and stars, which are good for extra bullets. If a gallery is cleared and bullets remain, they are worth heavy bonus points.

It can therefore be worthwhile to avoid picking off the final few targets, waiting for bonus-bullet items to come along and work up a good supply of ammo. But be watchful! The second the screen starts to fill with ducks, clear the wall as soon as possible.

The graphics are generally pleasing, though much larger than those in its coin-op progenitor. This gives the game a slightly clunky look. The background calliope music, on the other hand, makes a delightful touch, as do the many other sound effects which are handled with real expertise. (Bill Kunkel)

Update: Electronic War Games

With design improvements by Chris **"Eastern Front"** Crawford and others helping to pave the way, electronic war-themed strategy games came into their own during 1982. Avalon Hill invented non-electronic war games in the 1950's, and Strategic Simulations also produced several fine titles during the year. These include AH's boardgame/computer game hybrid, **Tanktics**, and SSI's mammoth **Guadalcanal Campaign.**

Android Avengers Attack from All Sides

K-razy Shoot-out/K-Byte Atari 400 & 800/ROM cartridge.

These maze games just keep on comin', don't they? What with maze-chases such as Pac-Man, maze-strategy games such as Wizard of Wor and maze-shoot-out games modeled on **Berserk**, they're more plentiful than ripoffs of **Space Invaders.**

Fortunately, innovative design by the team of Keith Dreyer, Torre Meeder and Chuck Miller raise **K-razy Shoot-Out** far above the maze genre's general standard. The player's space commander must reach the control sector of the alien base, shoot all the droids and safely exit the sector toward home. The arcader must clear all seven sectors of the base of droids in order to triumph.

Each of the sectors is a simple "floor plan" maze shown in overhead perspective. Players guide their on-screen representatives with the joystick. Pushing the action button while pointing the stick fires the laser in the desired direction. Otherwise, the space commander moves toward the compass point indicated by the stick. You'll repeatedly find yourself grateful for Atari's high quality controllers as your fighter darts into and out of danger.

The enemy droids materialize at the edges of each sector. A bar running across the top of the screen furnishes a visual reminder of passing time. As this marker shortens toward the left, its color changes first from the original green to yellow and then from yellow to red. If the bar disappears before a sector is entirely cleared, the program penalizes the player. The arcader must complete a whole sector at the same level—and there's no credit for points! The penalty for leaving a sector before killing all the droids is even worse; up to two sectors must be repeated without scoring credit.

The squad assaulting the base consists of three space commanders, available one at a time. A commander dies when hit by a droid's laser fire or if it touches a robot or wall. A cute animation sequence follows in which the mortally wounded hero staggers forward and keels over on his back, dead, to the strains of the funeral march. Accumulating 10,000 points earns an extra space commander, though the reserve force may contain no more than four at any one time.

Scoring is to say the least, complicated. The final rating is based on total elapsed time (shown in the lower right-hand corner of the screen), the amount of ammunition expended and the total points gained by killing droids. Classifications run from "Goon" up to "Marksman", with each divided into five sub-ranks ascending from five to one. The creators of *K-razy Shoot-Out* are either a trio of super-gamers, or they're being overly optimistic in naming the classifications. It will take a lot of skill—and quicksilver reflexes—to rise to even the "Novice" level.

Continued on page 112

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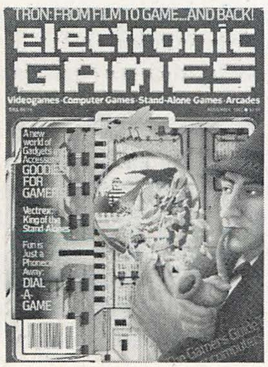
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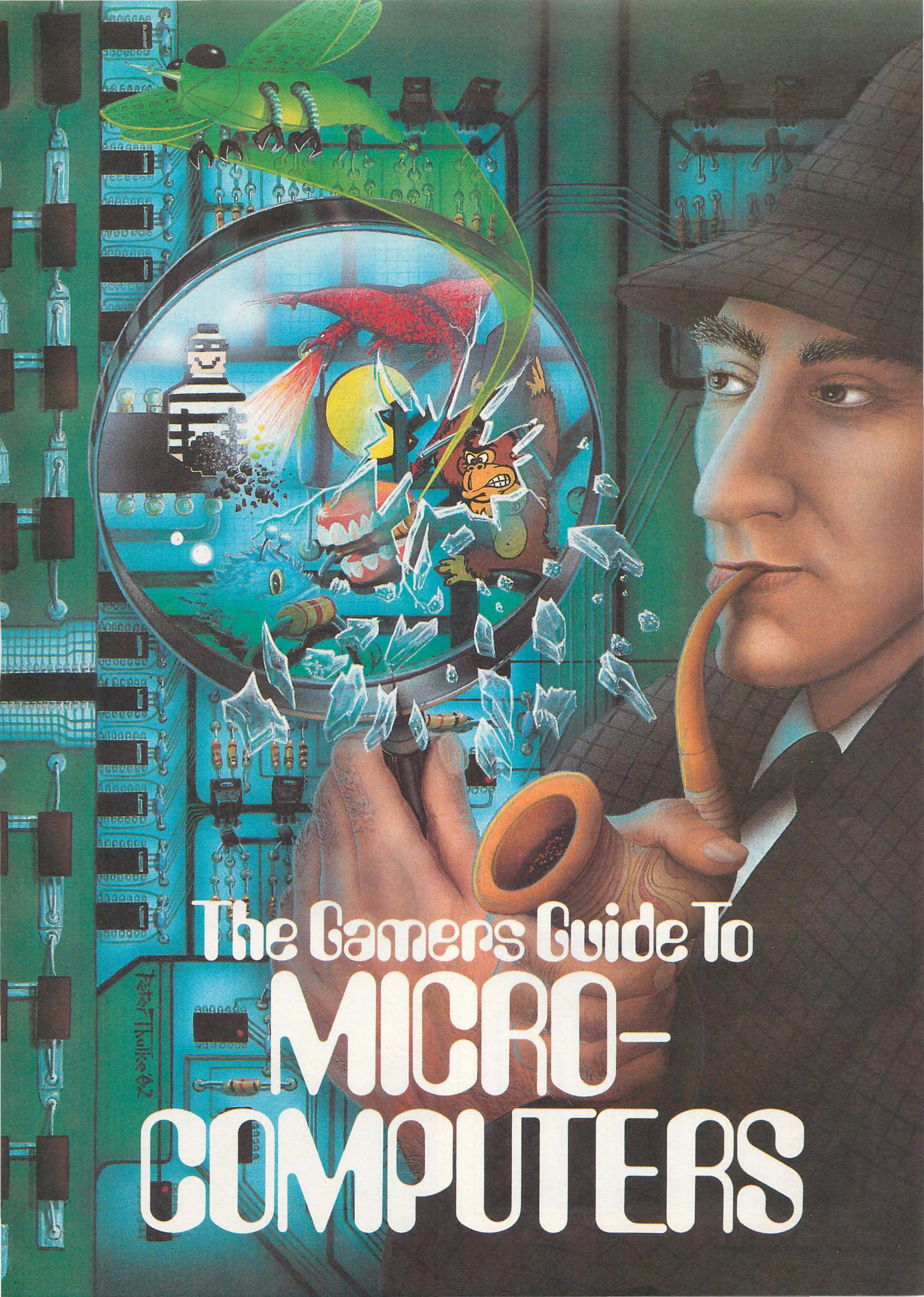


The Gamers Guide To MICRO-COMPUTERS

COMP

THE ULTIMATE ARCADES

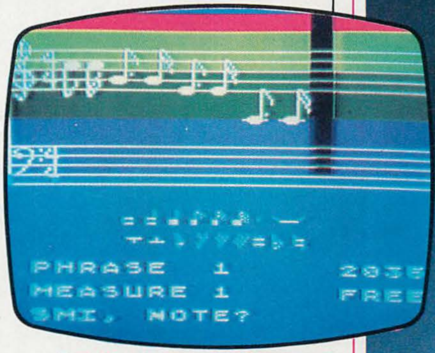
WHAT'S A COMPUTER?

Anyone who has ever plugged a videogame cartridge into the slot of a console will feel on familiar ground with any of the popular microcomputers. Both use essentially the same technology, though the true computers are a bit more sophisticated in the way they operate.

One analogy is that while a videogame machine is a special purpose tool, the microcomputer is capable of performing a great number of different tasks. The keyboard of a computer, used in tandem with one or another of the special program languages, makes it possible for the operator to modify programs in a way that it is impossible to accomplish with an ordinary videogame system.

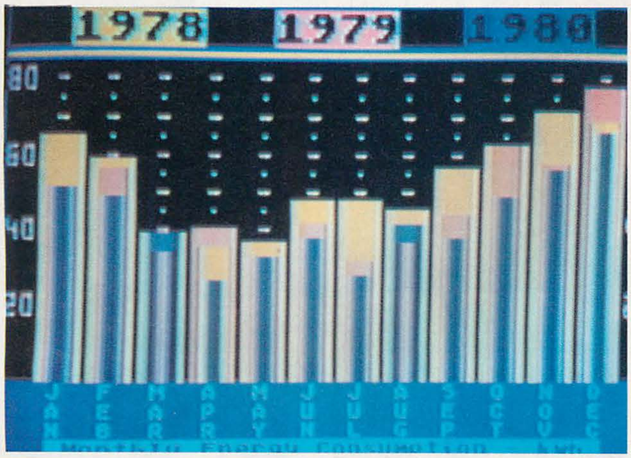
TO PROGRAM OR NOT TO PROGRAM

One of the most popular misconceptions about computers, one which has seriously slowed the spread of such machines, is that the would-be operator needs all sorts of specialized knowledge. Nothing could be further from the truth. In all reality, you barely need to know a boot from a byte in order to have hour after hour of gaming fun with a personal computer. A little knowledge can only increase your enjoyment of this phase of the hobby, but if you can operate a videogame machine and an electric typewriter, home computers ought to hold few terrors.



ATARI MUSIC COMPOSER

Some folks who might otherwise be interested in exploring the world of microcomputer gaming are particularly worried about having to learn to program. While BASIC is actually a lot easier to



ATARI ENERGY PROGRAM

UTERS:

COMMODORE PERIPHERALS

pick up than, say, French, it's more of a luxury than a necessity. Most games require you to do nothing more complicated than put a tape on a recorder or a disk in the slot of a drive. Obviously, knowing how to program (and in Assembly language at that) is a requirement for those who'd like to design games, although skill with the joystick remains the main requirement for those who only want to play.

GLOSSARY

Auxiliary Storage: Devices used for saving programs when the system itself is turned off. Since RAM loses its contents when the machine is powered down and ROM can only be programmed by the factory, auxiliary storage keeps programs between operating sessions. It can't be used instead of RAM or ROM, however, since it doesn't operate as fast as the CPU.

CPU: Central Processing Unit. This is the microprocessor—or electronic brain, if you will—that lies at the heart of every computer.

Disk Drive: An auxiliary storage device that works like a cross between a phonograph and a cassette recorder. By using plastic disks coated with a magnetic surface, such drives are faster and more reliable than cassette storage.

Interface: The part of the computer that permits the attachment of peripheral devices. These include cassette recorders, joysticks and a connection for a TV set or monitor.

Modem: Modulator-demodulator. It is a piece of equipment that allows computers to communicate with each other over telephone lines.

Interpreter: This translates programs from human-readable form into a series of codes the computer can understand. This makes using a computer a lot simpler for first-time programmers.

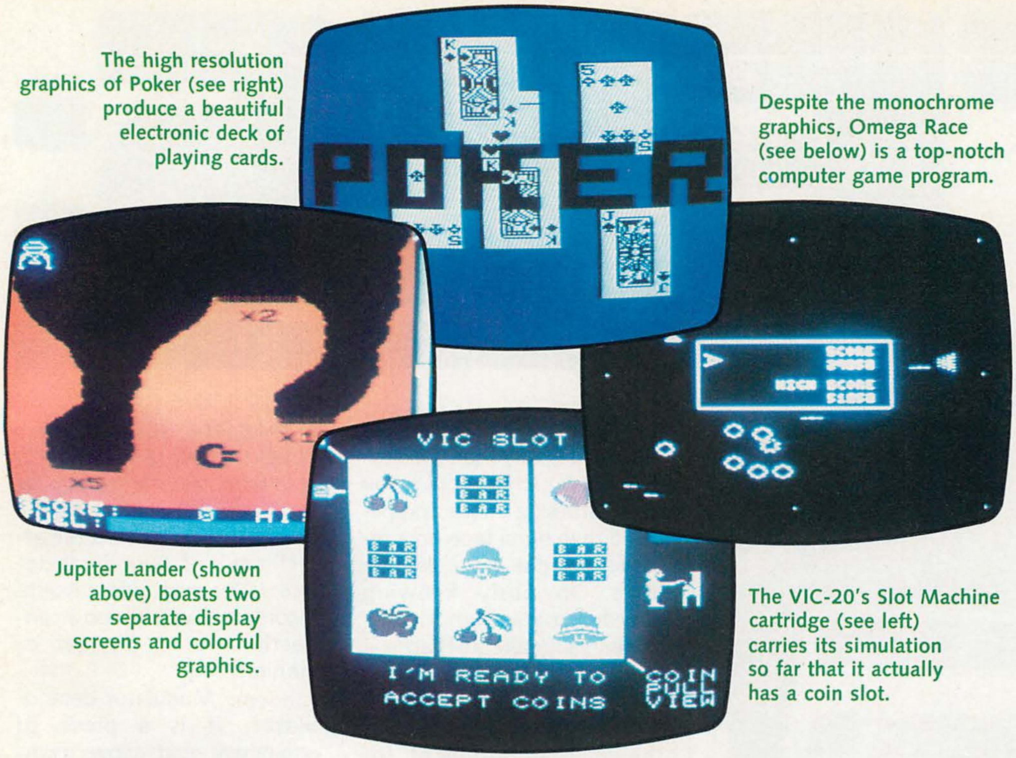
RAM: Random Access Memory. This is the internal memory the computer actually uses when running a program. It can be revised or read an infinite number of times.

ROM: Read Only Memory. This type of memory is also internal to the system, but it cannot be altered by the computer operator. Its contents are fixed at the factory and can't be changed. Most computer games bought in ready-to-play form fall into this category.

THE VIC-20: BONANZA ON A BUDGET

THE SYSTEM

The Commodore VIC-20 is not just a microcomputer priced well under $300—how far under depends upon the retail outlet in question—it is a well-made and highly versatile microcomputer priced well under $300. The same manufacturer's PET, though tremendously popular in Europe, failed to make a comparable



The high resolution graphics of Poker (see right) produce a beautiful electronic deck of playing cards.

Despite the monochrome graphics, Omega Race (see below) is a top-notch computer game program.

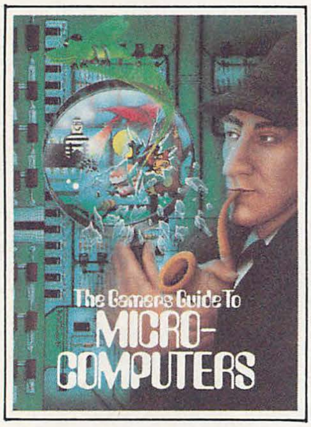
Jupiter Lander (shown above) boasts two separate display screens and colorful graphics.

The VIC-20's Slot Machine cartridge (see left) carries its simulation so far that it actually has a coin slot.

dent in its native land. The VIC-20 is a totally different proposition; it's success has been immediate and unambiguous. Though final 1982 microcomputer sales standings will not be determined for several months yet, it's a safe bet that the VIC-20 will rate at or near the top, thus virtually assuring the third party software support that spells the difference between viability and failure.

As the VIC-20 comes from the carton, it has 3.6K of RAM and 1.4K of graphics RAM in residence. Commodore game cartridges add additional RAM as needed along with the usual ROM, so that programs can be presented with good-to-excellent graphic quality. The VIC-20 may not have as high resolution as the Atari 400/800, but the machine's 32,384 pixels (picture elements) are more than

THE ATARI



THE 400 SYSTEM

The Atari 400 is a microcomputer that was designed with game-players firmly in mind. Using a 6502 microprocessor combined with 128-color capability and four, independent sound synthesizers, gaming comes quite naturally to this budget-priced home computer.

Those independent sound generators make the 400 capable of true, four-part harmonics that give the audio a coin-op quality sound. In addition, all sounds are driven through the television or monitor's own speaker.

Graphically, the revolutionary player-missile capability liberates the 400 for greater and more consistent on-screen action and movement. The 400 has a touch-actuated keyboard, 10K ROM, 16K RAM and reads BASIC, Pilot and Assembly languages.

The Atari 400 accepts programs in any of three formats: cassette, disc and cartridge. The cassette player (model #410) is a specially-modified audio tape recorder that loads directly into the computer, as does the much faster-loading 810 disc-drive. Both peripherals can be "daisy-chained" for easy transfer of programs from tape to disc.

The final program format is the cartridge, similar to the type used in programmable videogames. The 400 has a top-opening slot to receive all such cartridges. This is labeled as the "left" slot, as opposed to the 800, which boasts a pair of cartridge slots (although no

enough to produce satisfying visuals.

One of the greatest strengths of this system is that it has a full typewriter keyboard. This feature is unmatched by any machine in the same price range. How important this is will, of course, depend on how you intend to use your computer. The keyboard will be especially appreciated by those who want to delve further into all the intricacies of the CPUniverse by learning programming, and it may also prove a blessing to those gamers who dote on adventures or war games, both of which genres often require extensive use of the keyboard to convey player input.

Hard-core home arcaders, on the other hand, may feel the fact that the VIC-20 has only one joystick port is a balancing negative factor. It means that joystick contests must be played solitaire. (It should be noted that most computer games are solo affairs at the present time.) One good thing: the port is compatible with both the Atari VCS and the Atari 400/800 ports, so players can use any of the gourmet sticks now available for these systems on their VIC-20, too.

PERIPHERALS

Commodore has kept its promise to strongly support the VIC-20 with associated hardware. The add-on enhancements which it has made available to owners thus far share two major characteristics: low price and high quality. Everything the company sells for use with the VIC-20 seems to be well-constructed and perform as advertised. (Those familiar with the computer field know this is not a small compliment.)

Expansion cartridges—not boards—will eventually allow owners to increase their VIC-20's memory to 32K of RAM. So far, the only one on the market takes the machine to a total of 12K of resident RAM. This can come in quite handy when you wish to utilize the PET graphics drawing system which is built into the VIC to invent your own games or just copy the listed programs developed by others.

The VIC tape recorder, powered directly from the console itself, may well be the best of its type in the microcomputer field. It searches for a selected program, let's you know when it's found, loads it, and then gives notification that it's ready to play or list. And after a program is loaded, the tape stops and automatically cues up for the next operation.

VIC-20 SOFTWARE

Software for this system is only now beginning to see the light of day. This situation is well on its way to correcting itself, however, and some pretty good games are already available from Commodore.

Omega Race (Commodore): This translation of the coin-op space shoot is, in the minds of many, the best game currently available for the VIC-20. It's not in full color, but that's only a minor annoyance.

Jupiter Lander (Commodore): This is a pretty slick lander game with some interesting variations. The best point is that it provides a close-up of the landing site.

Radar Rat Race (Commodore): This scrolling maze chase sends the player scurrying along corridors on a mission to grab all the available cheese.

COMPUTERS:

TWO COMPATIBLE SYSTEMS

THE ATARI 400
SYSTEM RESET
GAME OPTION
GAME SELECT
GAME START
MODEL Nº C7000

use has ever been made of that second slot).

The right side of the keyboard console contains a reset, option, select and start button, in addition to a light indicating whether or not the power is on. The front of the computer has four joystick (or eight paddle controller) inputs and uses the same controllers as the programmable VCS system.

THE 800 COMPUTER SYSTEM

Despite its current price tag of well under $1,000 for the 48K configuration, the 800 ranks as one of the classiest of the personal computers. The neat-as-a-pin internal design offers maximum user friendliness, since memory boards, language and even the operating system are packaged as self-contained plug-ins. The idea is to keep the 800 as flexible as possible so that Atari hardware designers can take advantage of technological advances to keep the 800 up to state-of-the-art for as many years as possible.

The Atari keyboard is exceptionally easy to use. Some game programmers express a preference for the Apple II keyboard over this one, but it really appears to be a simple matter of individual choice.

Besides the regulation keys, there is a row of four additional ones immediately to the right of the main board. These are the game function keys, and they make the 800 a home arcade that is as simple to operate as the typical programmable videogame system.

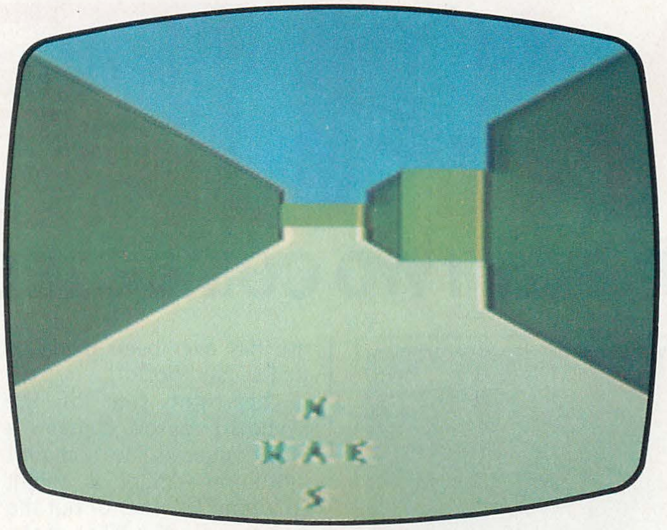
ATARI 410
ATARI 800

THE ATARI 800

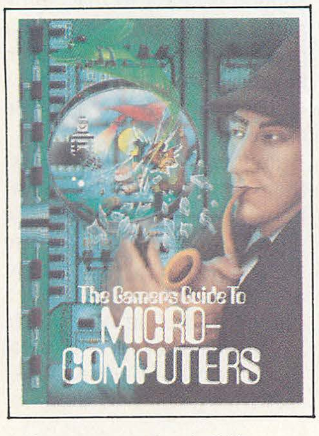
Sound and color may be the finest in the personal computer field. Resolution is on the order of 64,000 pixels, the machine is capable of four-part harmony, and graphics are painted in a veritable rainbow of 12 colors. A full display screen is 40 characters x 24 lines, the same as for the Apple II.

Sure to appeal to computer gamers is the fact that the Atari 800 has four controller ports arrayed horizontally across the machine's front (for easy access) directly beneath the keyboard. That means you can connect up to four joysticks—that's *eight* paddles!—at the same time. True, there isn't a lot of call for such a set-up, but it's awfully nice to have in case your friends want to try a four-player game of **Basketball** (Atari) or **Ali Baba** (Quality Software).

One unusual feature of the 800 is that it has two cartridge slots instead of the expected one. Everything now available plugs into the left-hand niche. Someday, someone may actually make use of the poor neglected right cartridge slot. Until then, it will just sit there tantalizing Atarians.



PDI's CAPTIVITY



PERIPHERALS AND ACCESSORIES

Both the 400 and 800 computers begin life with a 16K memory. It's a cinch to upgrade the 800, because the expansion modules just plug into clearly marked slots in the machine. Atari didn't design the 400 with the same easy expandability in mind, but boards marketed by such firms as Axlon, Mosaic and Intec will do the job nicely. Some 400 owners may wish to leave such internal changes in the skilled hands of a computer technician, but the job is not so hard that an intelligent gamer who can wield a solder gun can't get done.

One of the most important additions to any Atari computer is a BASIC cartridge. Some games are still being programmed in BASIC—or in BASIC with Assembly language subroutines—and you'll need this cartridge to play them. Actually there are several different versions available, both from Atari and independent sources, but which one you pick doesn't make much of a difference until you get into actual programming.

Some computerists have complained that the Atari disk drive isn't heavy duty enough for business applications, but it is certainly able to get the games on the screen in a reasonable period of time when serving as a home arcade. Percom has just introduced its very own Atari-compatible disk drive for those who really can't reconcile themselves to the Atari-made one.

Those who aren't satisfied with standard Atari joysticks have a wide range of possible alternatives from which to choose. There are super sticks from WICO, button controllers by B.C. Systems and Starplex, and many, many more different controller configurations. Any command device that works on an Atari VCS—and there are a lot of them—will function just as well with an Atari 400 or 800.

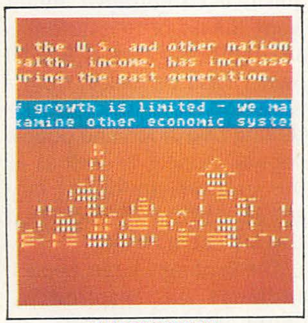
Although the selection of peripherals for the Atari doesn't even approach the number and variety of gadgets for the Apple, most of the essentials are in the stores. If you need a modem to join a network or a printer to keep a record of your performance in **Deadline**, you won't have any problem.

ATARI 400/800 SOFTWARE

Atari doesn't flood the market with games for its computers, but the company's releases are generally of unimpeachable quality. All Atari games are produced on ROM cartridge, though the manufacturer also distributes games on tape and disk invented by amateur designers through its Atari Program Exchange (APX). At least one program, **Caverns of Mars,** started out with APX but later moved into the regular line.

Some of the many fine Atari 400/800-compatible games include:

Missile Command (Atari): This is a beautiful version of the coin-op in which the player must defend his cities against a rocket attack from space.



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 the U.S. and other nation
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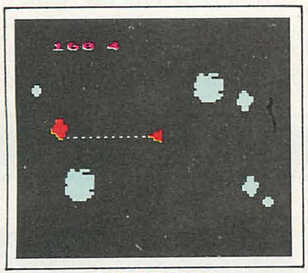
ECONOMICS

Star Raiders (Atari): This space piloting contest revolutionized computer games when it was published a couple of years ago .



ASTEROIDS

Jawbreaker (On-Line Systems): This may well be the best maze chase program ever created for a computer. The sounds and graphics are just wonderful.

Megalegs (Megasoft): Many gamers feel this independently produced game is even better at providing **Centipede**-like action than the ROM cartridge of that name released by Atari.

Basketball (Atari): This is one of the few sports games currently available for the Atari computer systems. Thankfully, it's an excellent hoop cartridge for up to four players.

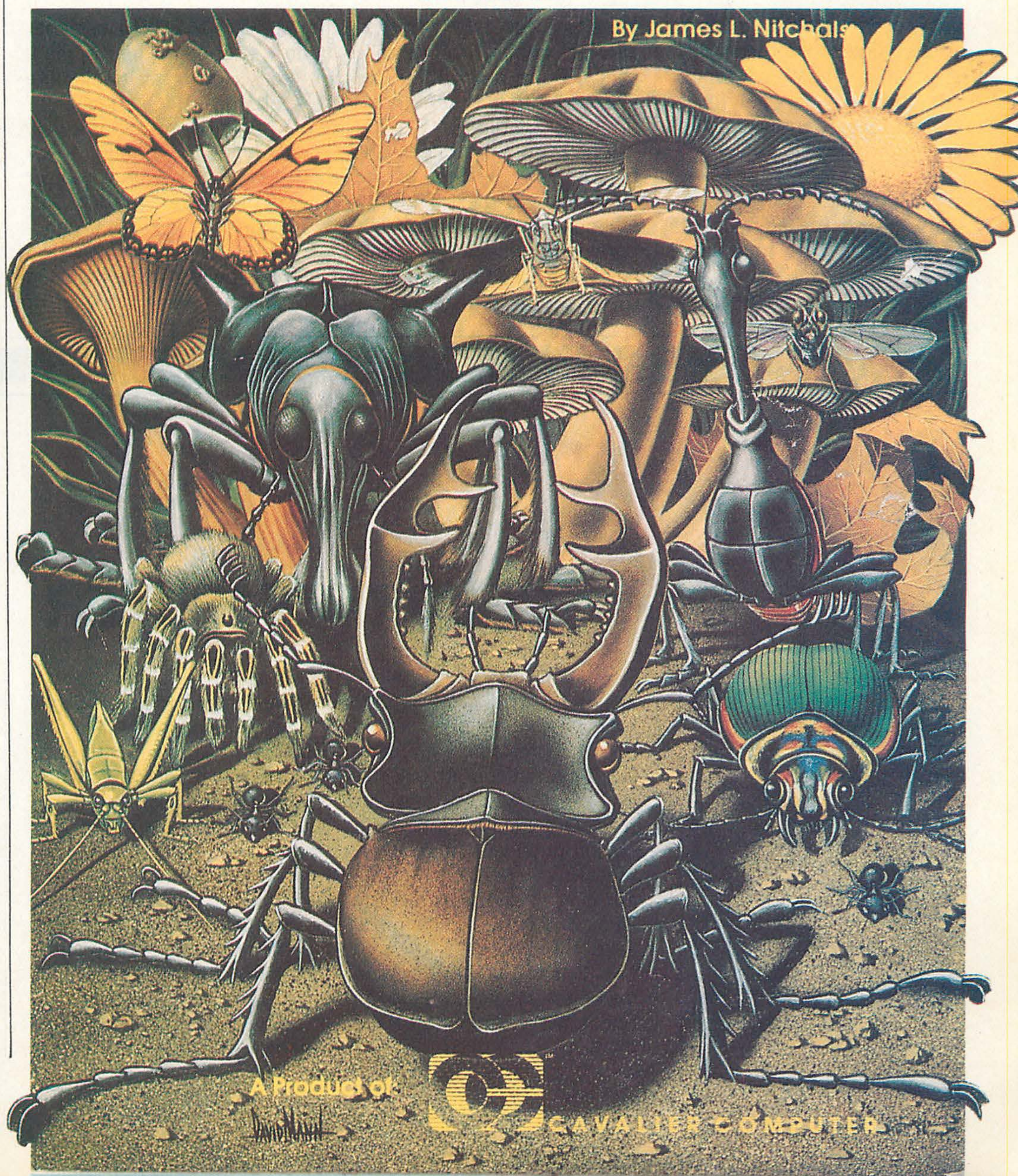
THE APPLE: GAMING TO THE CORE

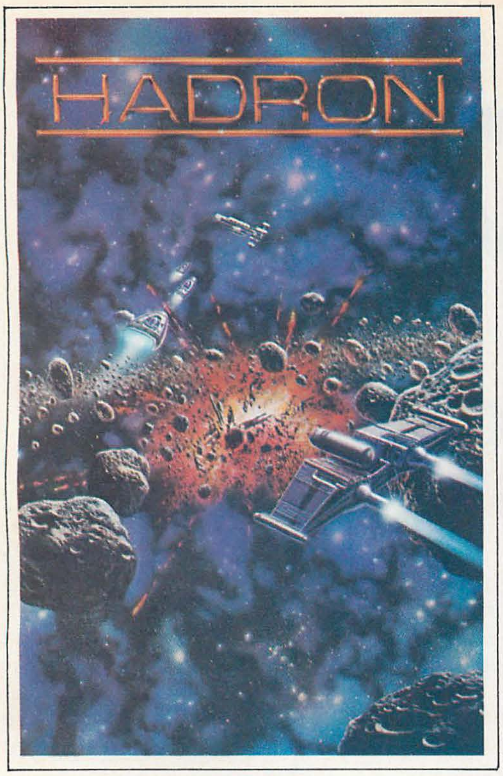
THE SYSTEM

The venerable Apple II has lost technological leadership to newer machines like the Atari 800 and IBM Personal Computer, but no microcomputer is deader to the hearts of gamers at the present time.

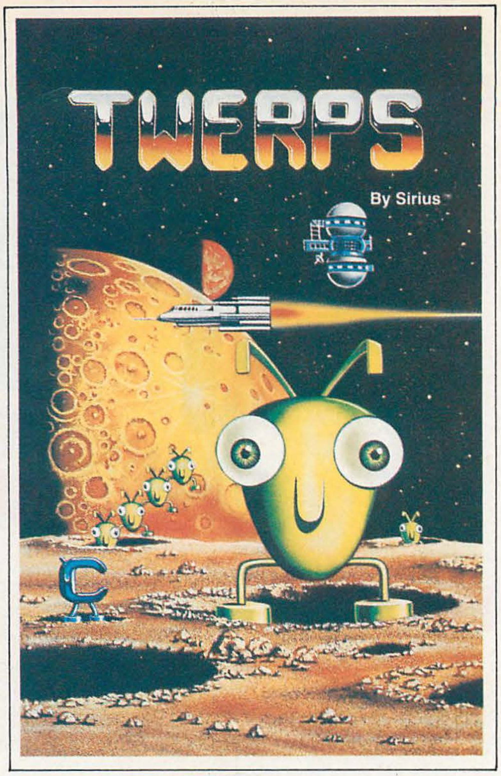
The Apple II was the first mass market personal computer in this country, and that has had both good effects and bad. Innovations like Atari's player-missile graphics and through-the-TV-set sound generation may make Apple II owners a mite jealous, but on the other hand, no system has a larger software library than the Apple II. It's relative longevity has given third

BUG ATTACK





HADRON



TWERPS

party software vendors enough time to do their stuff, overcoming Apple's corporate disinterest in doing anything much to please the dedicated computer gamer.

The keyboard closely resembles the familiar typewriters, with the addition of several extra keys for things like "system reset". An easily accomplished modification permits the operator to switch between upper and lower case characters in much the same fashion as an IBM Selectric or other typewriters.

One of two possible BASIC languages is resident in the machine and is ready whenever the power switch is "on". The older Integer BASIC has largely been supplanted in the gaming world by the Applesoft BASIC. All machines now sold under the "Apple II Plus" designation have Applesoft BASIC resident.

Game-playing obviously didn't get top priority when this system was designed, or else the single joystick port wouldn't be in such an inaccessible place. You'll have to lift off the top of the machine every time you want to plug or unplug a game controller. The flimsy 20-pin connectors on the paddles and joystick don't exactly promise long service life, either. The best solution is to spend a few dollars extra and buy one of the external joystick ports. These attach to the side of the machine and permit hassle-free connections.

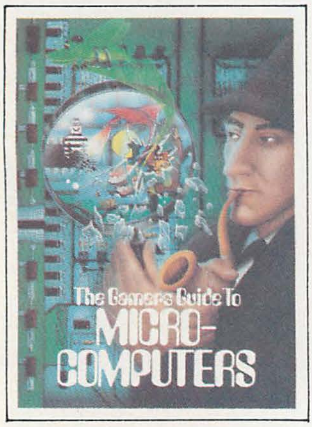
PERIPHERALS AND ACCESSORIES

Just about *anything* the acquisitive computerist might want for his or her system is available to the Apple II owner. You can select from a wide range of disk drives, including two-sided and double density models, as well as all the printers, modems, language cards and such that anyone could desire.

The invitingly large Apple II audience has inspired independent producers of hardware as well as software to put forth their very best efforts. Since there may be more than a dozen brands in some categories of peripherals, even the budget-conscious computer gamer should be able to make out pretty well.

Most games for the Apple II are sold on disk, though tape is still obtainable from manufacturers like Avalon-Hill and

THE RADIO SHACK COLOR COMPUTER



The TRS-80 Color Computer has a host of plusses going for it, including good sound and high resoluton graphics, but it has never quite jelled as a complete system. Tandy introduced its first color microcomputer with high hopes, but the competition of more enticing machines like the Atari 400 and the Commodore VIC-20 has prevented the Color Computer from making much headway in the under-$400 segment of the market.

The damning flaw is that Radio Shack has not produced nearly enough gaming software, and what there is won't win many prizes. **Dino War** is the best of the Tandy-produced programs on cassette, and it is not very exciting to say the least.

Another problem with the Color Computer, at least from a home arcade standpoint is that the control devices made for the system are bad. Response is very poor on some games, making them very dif-

Scott Adams which like to cover *all* the bases. The Apple-manufactured disk drive, which uses the current standard 3.3 disk operating system, runs through the computer without need of an additional power source. It is very reliable.

The "regulation" Apple II comes with 16K of memory. This can be increased to 48K for gaming purposes, though it is possible to shoehorn in another 16K by installing an extra language card for Pascal or the like.

APPLE II SOFTWARE

It would be impossible to mention more than a small fraction of the hundreds of interesting games available for the Apple II computer system. Here are a few of the **EG** staff's current favorites:

Castle Wolfenstein (Muse): This semi-role-playing game casts the gamer in the part of an Allied P.O.W. during World War II who must escape from a fortified German stronghold with secret war plans.

Star Blazer (Broderbund): A beautifully designed scrolling shoot-out gives the arcader several mini-missions to complete before ultimate victory is achieved.

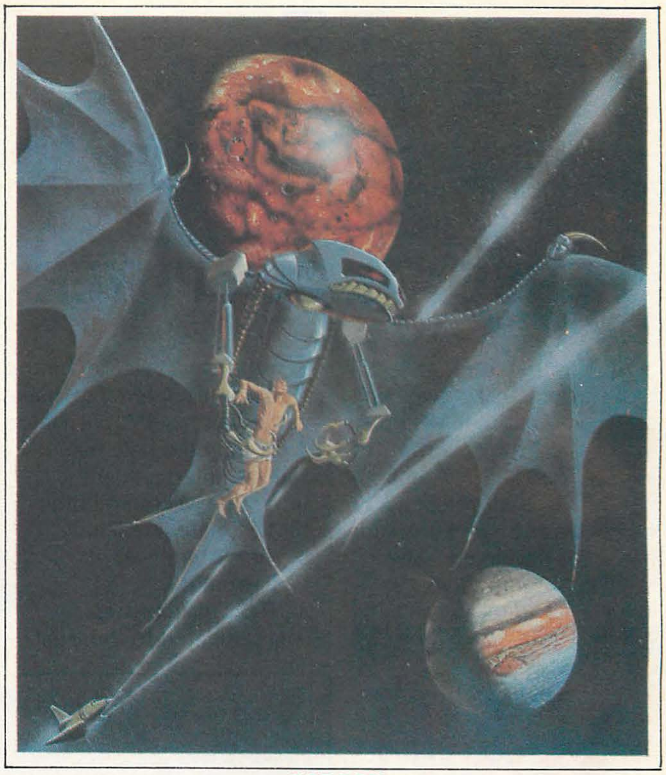
Night Mission (SubLogic): Even if you aren't a real fan of pinball, there's a good chance you'll enjoy this clever electronic simulation. There are many user-modifiable aspects to the game that allow the player to customize the *Night Mission* table to fit his or her own tastes.

Empire of the Over-Mind (Avalon-Hill): This text adventure will keep several players working busily—and happily—to cast down the tyrant of two worlds.

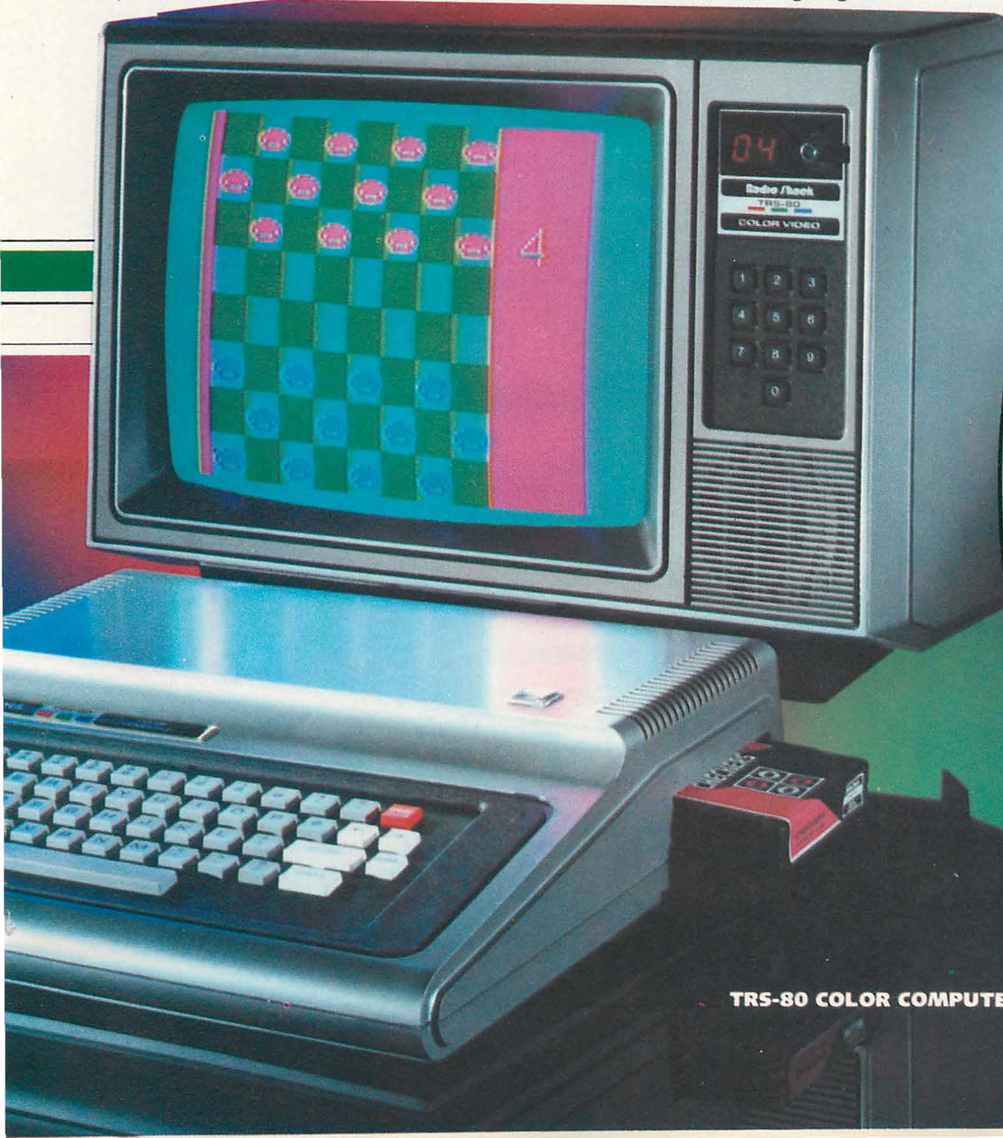
Computer Baseball (Strategic Simulations): If you like the idea of managing electronic analogs to real baseball players, this statistical replay game should be on your shopping list.

Cyborg: (Sentient Software): A text-like adventure for the experienced electronic hero, *Cyborg* offers an intriguing science fiction situation and lots of room for creative adventuring.

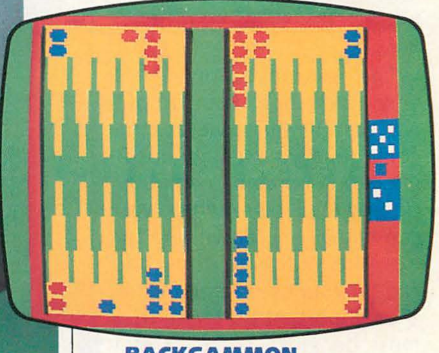
Star Warrior (Automated Simulations): This one combines the action-oriented arcade-style game with the adventure to produce a program that offers two exciting scenarios in which the gamer must function as cosmic avenger to free an enslaved planet.



GORGON



TRS-80 COLOR COMPUTER



BACKGAMMON

ficult to play.

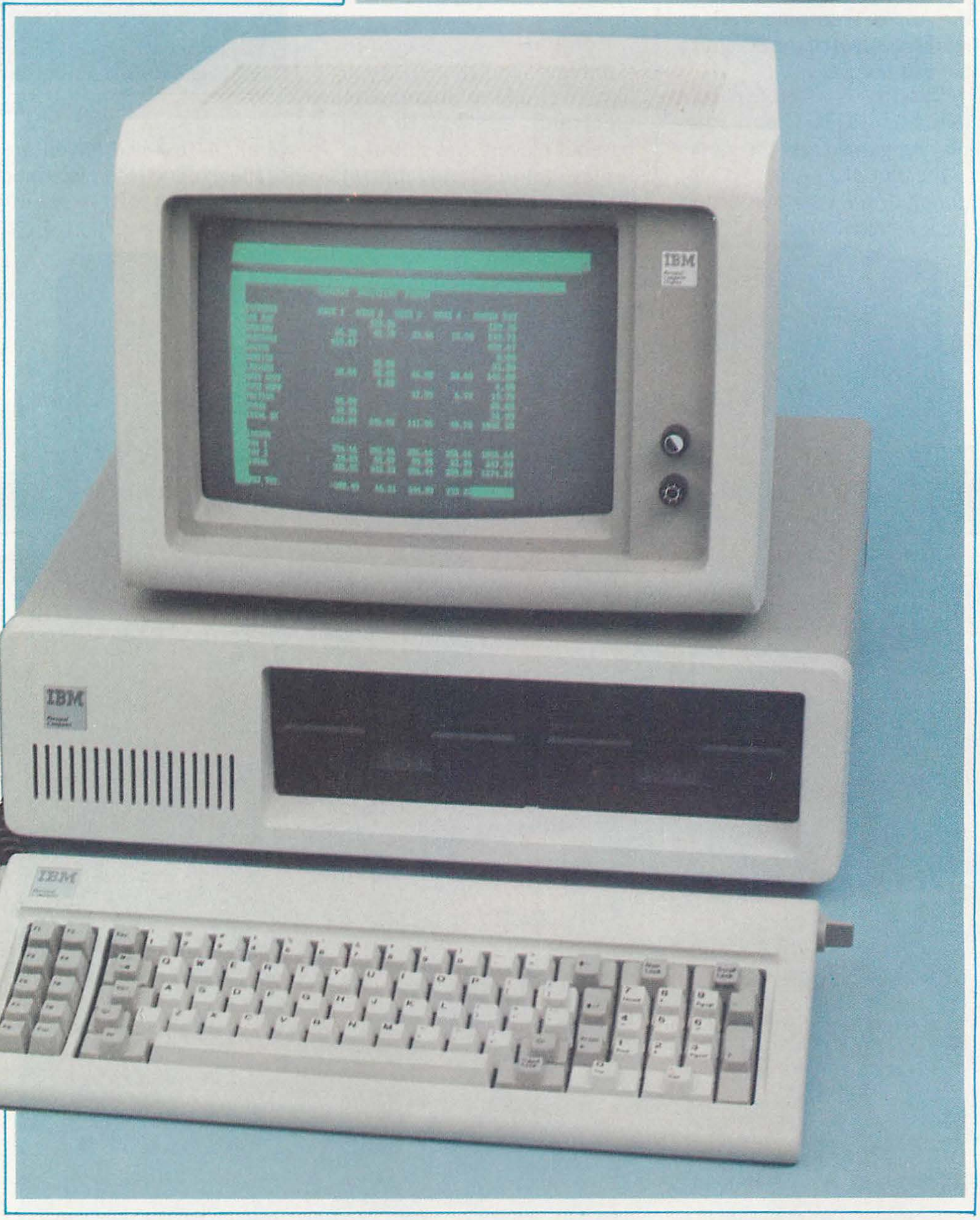
The Color Computer is not a bad machine. Those who are more interested in the programming side of computers will definitely want to look it over before picking a system. Yet despite the recent efforts of some third party software companies like Spectra Associates, the pickings are very lean for gamers.

THE IBM PERSONAL COMPUTER

At this juncture, it's still too early to make sweeping predictions about IBM's entry into the microcomputer sweeptakes. The system is so innovative, that independent hardware and software support is still developing. Several leading computer game publishers, including Automated Simulations, Sir-Tech and Avalon-Hill, intend to make games for the IBM, but it is too soon to know how many shelves entertainment programs will claim in the IBM PC software library.

The system itself is built around a 16-bit microprocessor, compared to the 8-bit CPU's found in machines like the Atari 400, Apple II and VIC-20. This should give the IBM much faster computational speed, which could come in mighty useful when a complicated adventure game is running on the machine.

Will the IBM Personal Computer become a major home system as well as a popular choice for small businesses? The next year should tell the tale.



YOUR NEXT STEP

This guide is only intended to serve as a painless introduction to the world of gaming possibilities waiting for arcaders in the personal computer field. Hopefully, you are now pointed toward one or two of the systems profiled here.

The next move, however, is very much up to you. Go out and get a firsthand view of the computers yourself. If possible, find a friend, computer club or retail store where you can actually sit down and try out the machine that has caught your eye. After all, this is an important purchase that must be given some careful thought.

And don't forget to look at the software library!

A system is only as good as the programs available to run on it—that is, unless home programming counts heavily in your case. Just make sure the computer games and such you want are actually obtainable for your system.

Happy hunting!

Phaser Patrol
a Supercharger™ game
FOR THE ATARI® VIDEO COMPUTER SYSTEM™

ENTER THE NEXT DIMENSION

Turn your Atari® Video Computer System™† into a supercharged video game machine.

Slip the Arcadia Supercharger™ into the cartridge slot of your Atari® set and enter the next dimension in video game excitement. The Supercharger™ gives your Atari® set the game-playing power of sets costing hundreds of dollars more.

And Supercharger™ game programs cost 40% to 60% less than conventional game cartridges.

Start with Phaser Patrol,™ the extraordinary galactic odyssey that comes with the Supercharger.™ Plot your strategy on a full screen sector map. Then fight it out with a challenging enemy on an incredibly detailed battle action screen. Take control of switchable shields, target-locking torpedoes, fully operational instruments, and starbase resources.

Included with Phaser Patrol™ are live action previews of other Arcadia games: Communist Mutants from Space,™ Fireball,™ and Suicide Mission.™ They're all a dimension ahead of anything you've ever played on your Atari® set.

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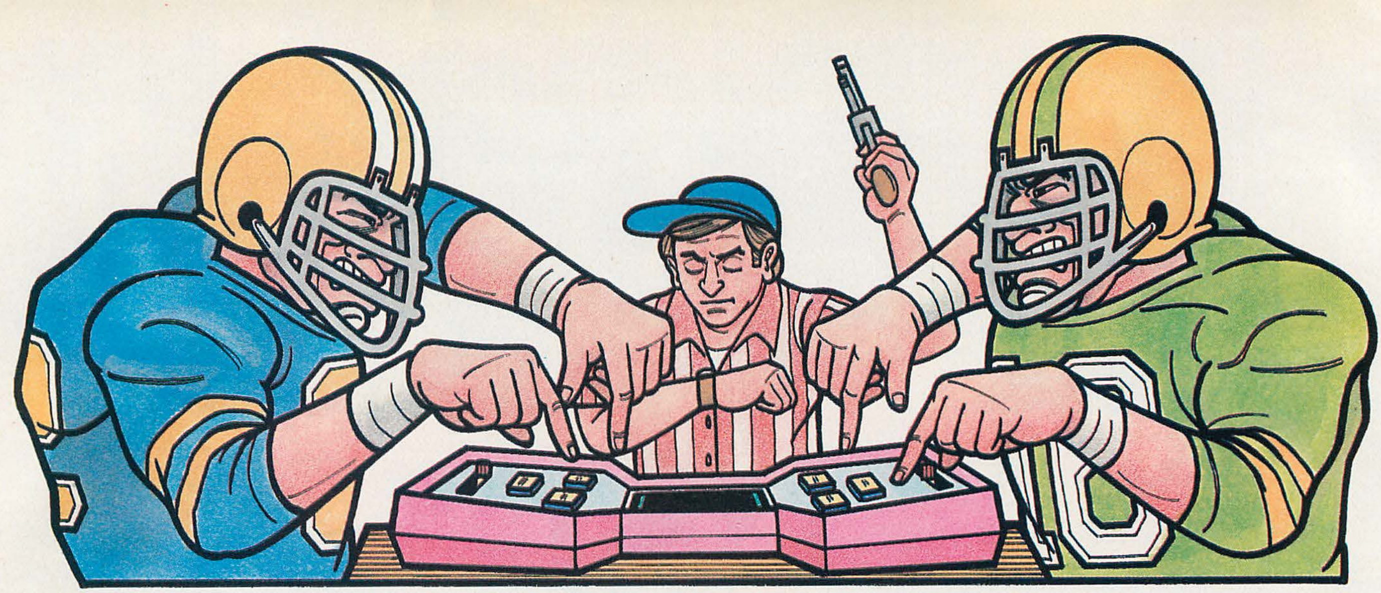
ARCADE ACTION COMES HOME©

"Phaser Patrol™ is the best home video game I've ever played on any set."

Andy Breyer
Champion
1981 International Atari®
Asteroids™ Tournament

Andy Breyer

"The graphics on Phaser Patrol™ are as good as on many arcade games. And the game itself is designed to stay challenging. Even to me."



RATING THE STAND ALONES

By Joyce Worley

Game-Time/General Consumer Electronics Corp./$39.95

When Dick Tracy got bored, he called up his trusty friends down at police headquarters on his special Dick Tracy Wrist Radio. Now, when searching for a momentary diversion, you too can whip out your trusty wristwatch and—you guessed it!—play games!

Game Time is an electronic digital wristwatch that also plays four arcade-style games, **Firing Squad, Alien Assault, Missile Strike,** and **Blast Away.**

Used as a watch, 'Game-Time' displays the time and a continuously changing pattern on the face. The readout is large and clear, and it seems to keep accurate time. The changing pattern occupying most of the face of the watch is attractive, and no doubt will generate a lot of interest from the people sitting next to you on the subway, craning their necks to see how late they are to work.

But it's when playing with the game functions that 'Game-Time' really shines. Press the selection button until the number of the game appears in the time display window. The right button starts a game with sound, while the left starts silent play (for those occasions when you want a quick round in class without the teacher catching on.)

'Firing Squad' is as cute a skill game as we've seen in such a small package. It casts the player as a victim facing a six-man firing squad. But they've forgotten to tie him down. The arcader moves the on-screen symbol up and down the right side of the field in an effort to avoid the bullets. It starts out easy, with only one member of the firing squad getting off a shot at any one time. Soon they start firing volleys, however, and then look out! Dodge enough bullets and the old firing squad marches off the field, and a new, faster squad takes its place. When the victim is hit, the game ends. The watch prints the final score in the time display window. One point is scored for each bullet dodged. General Consumer Electronics Corporation must expect players to get good at this—the scoreboard goes up to 999 and then rolls over.

GAME-TIME WATCH

GCE
9:57
GAME-TIME

Good strategy in 'Firing Squad' demands that you try not to get caught in a corner. There is no trouble scooting the human target around when the bullets are coming in ones and twos, but when a five-man team fires at once, it takes some real scurrying to avoid the five-bullet volley. If caught in the wrong corner when this happens, it's impossible to make it across the board to safety before the projectiles find their mark.

Game No. 2 is **Missile Strike.** Two rocket launchers at the bottom of the game field fire at enemy missiles crossing at different heights and speeds. Pressing the left game play button fires the left rocket launcher, and the right button fires the one on the right. When an enemy missile is hit, it scores points and a handsome explosion flashes on the watch face. The game ends when 30 missiles cross the air space.

Each low-speed target is worth nine points. The medium missiles count for 12 points, and high-speed ones score 15.

Game No. 3 is **Alien Assault,** a version of **Space Invaders.** Three alien attackers at the top of the screen are the targets for the arcader's earth station at the bottom. Invaders march back and forth across the play field, coming closer and closer while dropping bombs on the earth station. As they get nearer, the speed increases. Once a missile is fired, the earth station must move before firing again. Destroy the first three ships and three more appear. The game ends when the earth station is hit three times, or the aliens land.

Destoying a bomb in midair scores three points, and each invader destroyed tallies six points. Each time the earth station is hit, the number of defenders remaining flashes briefly in the time display window before the game resumes.

The fourth game is **Blast Away.** Two rows of enemy tanks stand at the top of the game field. Fire a rocket toward the enemy tanks, and when it rebounds, use the game play buttons to bounce it back toward the tanks. The first time an enemy tank is hit, it disappears, leaving the driver. Shoot the driver and he disappears, to expose the back row of tanks and drivers. Blast away all of the enemy tanks with their drivers, and new ones appear. This time, however, the rocket caroms even faster.

If the rocket gets past the launcher, a new rocket appears. Miss five rockets and play ends.

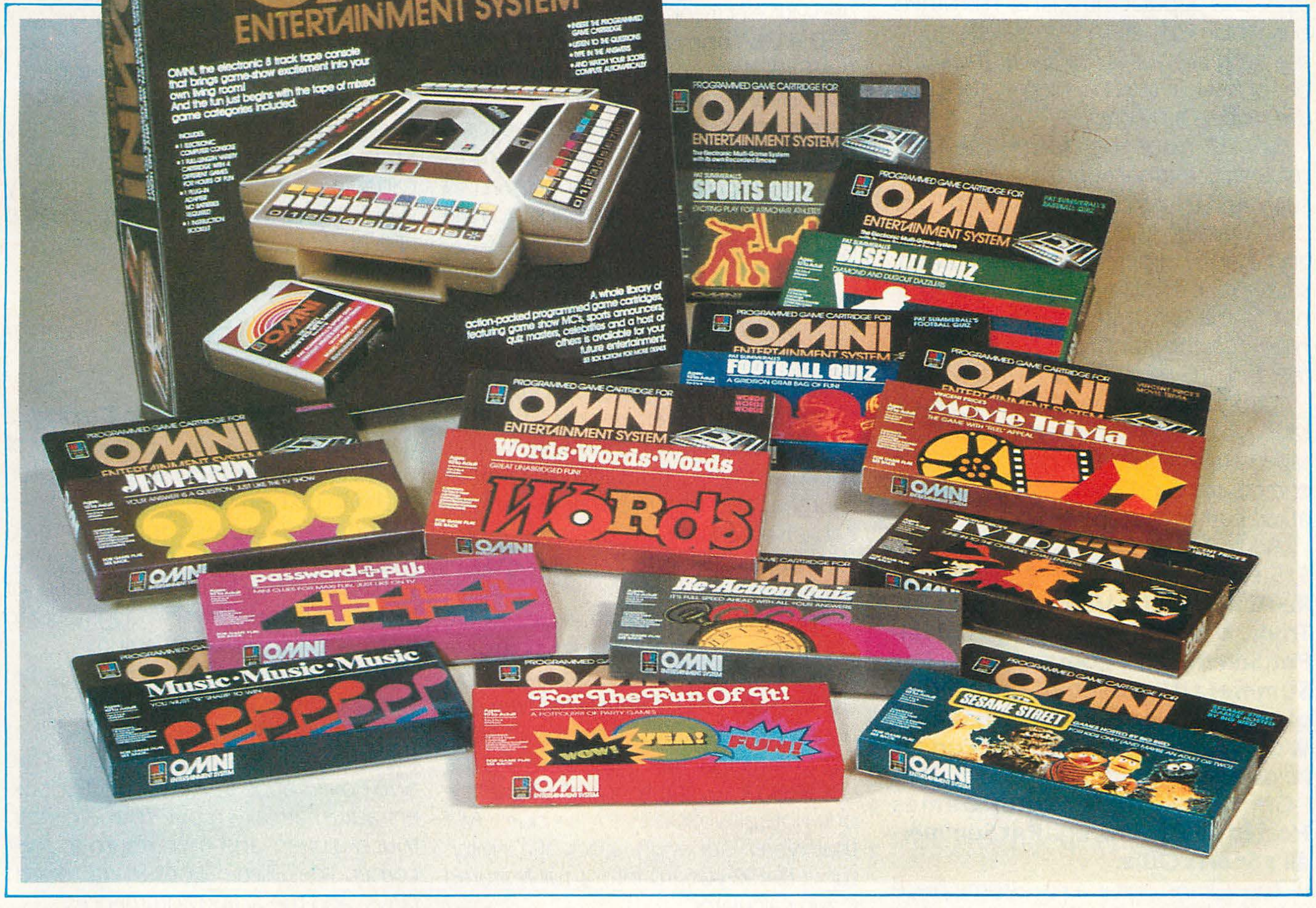
This game is very similar to **Breakout,** and the same strategy applies. Try to take out the tanks at each end before trying the middle, avoiding unnecessary movement of the launcher. If the launcher is in one corner and the rocket rebounds back into the opposite side, it's a real scramble to get there in time.

The tanks in the front row count 3 points; drivers count 6 points. Tanks in the second row are worth 9 points, and second row drivers tally 12 points. Again, when the score reaches 999, it rolls over, then begins again.

'Game-Time' is attractive in a new-wave-ish sort of way, but its looks may never win your heart. The play's the thing with this gadget—and there's real excitement in its well-designed arcade-style games.

Omni/M.B. Electronics/Approx. $120.00

OMNI



How many times have you sat watching game shows and said, "I could do that!"? Well, here's something new for quiz show enthusiasts. The **Omni Entertainment System,** a programmable electronic console using 8-track tapes, lets arcaders try their hands at question-and-answer games as seen on TV.

The console features four keyboard panels and a like number of automatic scoring displays. A channel select switch chooses the game on the cartridge, and the volume control modulates the sound within a range from 1 (softest) to 10 (loudest).

'Omni' may be played by one to four players. Insert a cartridge into the console to activate the game. The players "sign in" to advise 'Omni' how many are playing this round. A celebrity emcee then asks a question.

The questions are always in one of three forms. True/False stumpers are answered by pressing either T or F. Multiple choices are made by pressing the number of the correct reply, and fill-in questions require spelling out the correct word on the keyboard.

After choosing the answer, press the "enter" button to lock the response into 'Omni.' The master of ceremonies announces the correct answer and tallies the score of each participant, just like a video game show. Point values are assigned to answers depending on what game is played and how fast the player responds. The first correct answer entered wins the most points. A running tally of earned points appears in the digital display scoring window before each player.

There are several 20-question rounds on each of the four channels on the cartridge. Following the 20th question, 'Omni' verbally congratulates the winner, flashes the appropriate scoring window several times, and beeps to announce the game is over. To start another round, the player presses the "O/go" button and signs in again.

The 'Omni' system comes packed with a "variety programmed game cartridge". Channel No. 1 stars Pat Summerall with a Sports Quiz. Channel No. 2 features Vincent Price asking movie/TV trivia questions. Channel No. 3 is a reaction quiz that tests general knowledge and demands quick responses. Channel No. 4 is a music quiz with two types of questions. Some merely test knowledge of Broadway shows, stars, and popular musicians. The others play "Name That Tune." Players guess the song titles, and the fewer the number of notes it takes to identify the ditty, the higher the score.

Throughout the game, the host makes occasional appropriate remarks, such as "That's using your head!", or "You really do know your sports!" Now and then a surprise voice may pop up, such as the most famous Georgian peanut farmer of them all, giving a little history lesson about the backround of the song "Goober Peas."

'Omni' may also be used as an 8-track tape player. Simply insert any 8-track tape cartridge into the door, press the enter button and hold it down until the audio part of the tape begins.

Additional cartridges are available for $15 each. These include: **Music Quiz, Re-Action Quiz, Vincent Price's TV Trivia, Vincent Price's Movie Trivia, Pat Summerall's Football Quiz, Pat Summerall's Baseball Quiz, Jeopardy, Password Plus, Words Words Words** (spelling bee), **For The Fun Of It** (party games from "Simon Says" to "Ghost"), **Sesame Street Games Hosted by Big Bird,** and **Pat Summerall's Sports Quiz.**

The 'Omni' unit is a handsome piece of equipment that can provide a lot of fun for a family that really likes quiz games. There's never been anything exactly like it available before, and everyone age 10 and up should get a kick out of it.

VL-TONE
CASIO VL-TONE
ELECTRONIC MUSICAL INSTRUMENT VL-1
MARCH
WALTZ
4-BEAT

VL-Tone/Casio/$69.95

Want something to do while waiting for a turn at **"Asteroids"**? Casio has a new diversion for people who like to fiddle with electronic gadgets.

The **VL-Tone** is a hand-held (11¾ in. by 3 in) electronic musical instrument that anyone can play with no training or exceptional talent. Better yet, electronic wizardry allows would-be virtuosos to pick out songs with one finger, record the results, and then play it back with the pitch and rhythm desired.

The 'VL-Tone' has five voices: piano, fantasy (synthesizer), violin, flute, and guitar. A three-position octave switch further expands the 17-note keyboard.

After recording a tune, it is possible to blend in one of ten background rhythms: march, waltz, four-beat, swing, rock, fast rock, bossanova, samba, rhumba, and beguine. These rhythms can also be speeded or slowed, producing an unexpectedly large variety of tempos.

The buttons on this attractive unit are conveniently arranged in keyboard sequence. Tickle the ivories on manual, or use the recording feature which remembers up to 100 notes. To make an effective "name that tune" game, record the first lines of several songs, then use the one-note playback key to give clues. As if that weren't enough, a flick of a switch turns the keyboard into a full-featured Casio calculator.

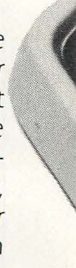
The 'VL-Tone' operates on batteries or with an optional AC adaptor. Sound emerges either through the instrument's own speaker, or it can be linked to an audio amplifier or radio cassette recorder.

The drawback of this unit is that you can play only one note at a time; chording is not possible. This means that all songs must use the pre-recorded rhythms as the bass. Another problem is that the buttons which take the place of keys are rather small and closely placed if you happen to be ham-handed.

But these limitations aside, the 'VL-Tone' offers a lot of fun in a tiny package. Even though it doesn't tell time or play **Space Invaders,** Casio's device is capable of stealing the heart of every would-be musician who just happens to also be interested in electonic toys.

Head to Head Electronic Boxing/Coleco/$29.95

Head to Head Electronic Boxing, a game for the Sugar Ray Leonard in all of us, brings the drama of the squared circle to the hand-held field.

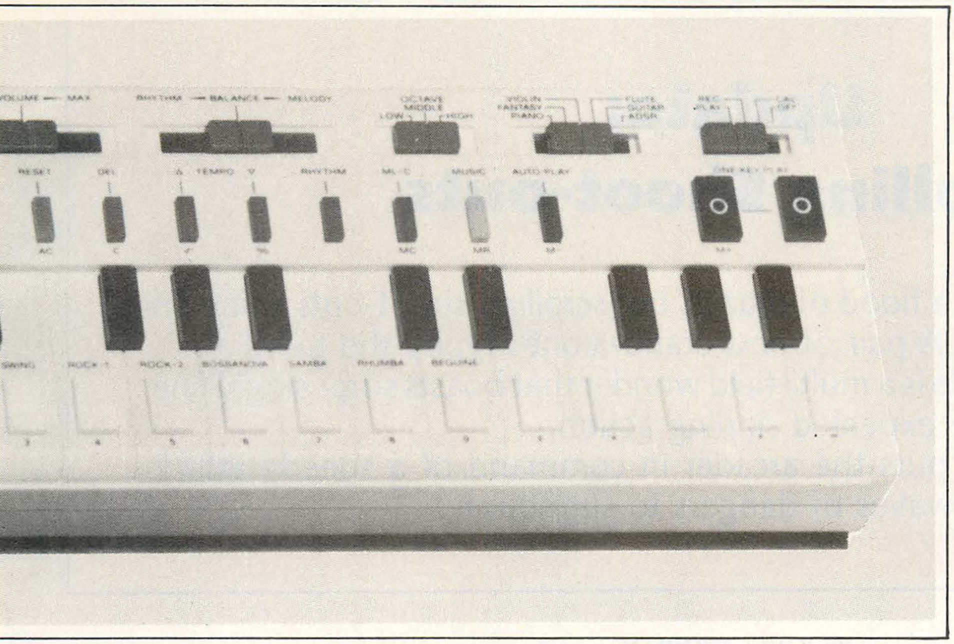


The unit features controls for two players, separated by the boxing ring. Each player has two buttons, used for blocking and punching, and a joystick to move his man around the ring.

To begin the game, slide the game select switch to one- or two-player mode, then press either button to start the first round. An overhead view of the two boxers appears in the ring. The boxers automatically move to the center, touch gloves, and then return to their corner. The Gillette "Look Sharp" march plays, and the action commences.

By using the joystick, the arcader moves the boxer forward, back, right or left. When the boxer comes within striking distance, keep pressing the punch button to control the boxer's right arm. If your opponent is on the offensive, use the other button to block with the left.

Should either boxer be knocked down, the referee automatically appears and moves the standing boxer back to his corner. The downed pugilist flashes,


RHYTHM — BALANCE — MELODY
OCTAVE
MIDDLE
LOW
HIGH
RESET
TEMPO
RHYTHM
MUSIC
AUTO PLAY
SWING
ROCK-1
ROCK-2
BOSSANOVA
SAMBA
RHUMBA
BEGUINE

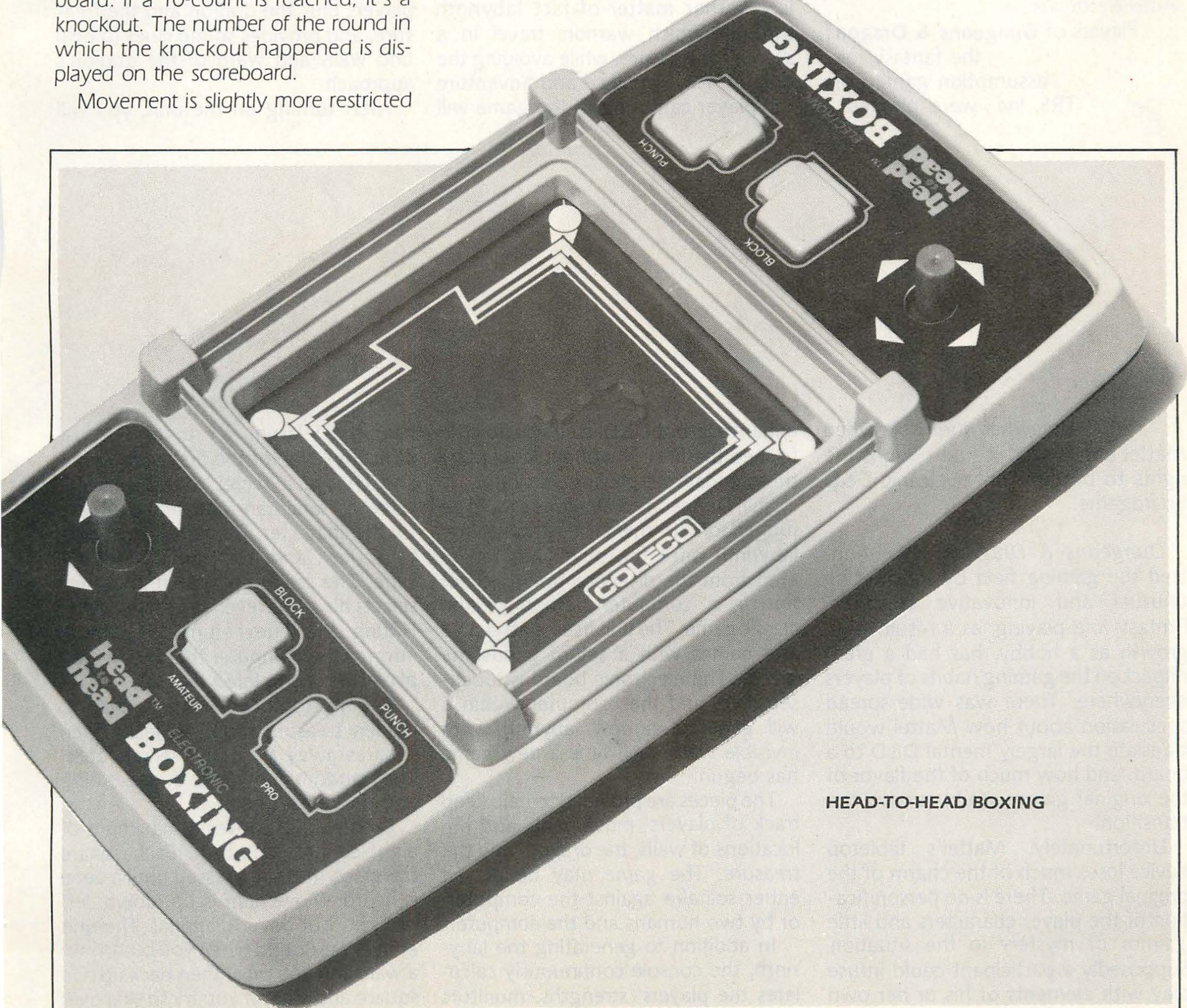
and the count is displayed on the scoreboard. If a 10-count is reached, it's a knockout. The number of the round in which the knockout happened is displayed on the scoreboard.

Movement is slightly more restricted than expected from the size of the unit. The boxers move all the way across the ring, but are limited to only two parallel paths. That means the width of the ring is not utilized at all! And the joystick controllers are so diminutive that players will feel they're using doll-sized levers.

The size of the unit is also a little awkward. It's too big to be hand-held, yet when used as a table-top game, the two players are almost on top of each other while throwing their punches.

But these are problems whose importance must be weighed by the individual arcader. 'Head to Head Electronic Boxing' is a highly competitive game, whether played against a live opponent or against the computer. The action is fast and the images are bright and clear.

The unit can provide some good fistic fun within the limitations detailed earlier.


head to head
ELECTRONIC
BOXING
PUNCH
BLOCK
AMATEUR
PRO
COLECO

HEAD-TO-HEAD BOXING

Update: Scrolling Shoot-outs

This year began with a flood of mazes, but scrolling shoot-outs came on with a rush at the end. A pair of new stand-alones typify the trend.

Tomytronics' **Scramble** is a multi-field wonder that boasts surprisingly fine graphics along with the expected sizzling action.

Entex's **Super Cobra** puts the arcader in command of a speedy attack helicopter with several waves of dangers to surmount.

By JOYCE WORLEY

DUNGEONS & DRAGONS

Mattel Electronics

Players of **Dungeons & Dragons,** the fantasy role-assumption game from TRS, Inc., were pleased if somewhat surprised when Mattel announced it had bought the rights to produce an electronic D&D boardgame.

Dungeons & Dragons revolutionized the gaming field by introducing unusual and innovative concepts. Fantasy role-playing, as a result of its growth as a hobby, has had a great impact on the gaming habits of players everywhere. There was wide-spread speculation about how Mattel would translate the largely mental D&D to a board, and how much of the flavor of the original game would survive the transition.

Unfortunately, Mattel's tabletop device loses much of the charm of the original game. There is no personification of the player characters and little glamor or mystery in the situation. Supposedly a participant could infuse play with elements of his or her own imagination, yet the game itself is a rather matter-of-fact labyrinth through which warriors travel in a search for treasure, while avoiding the dragon. Any romance and adventure the player can bring to the game will enhance it, but D&D itself will do little to feed the fires of wonder kindled by the original role-playing version.

Still, *Dungeons & Dragons* should be judged on its merits as a computer labyrinth once the buyer has recovered from the disappointment of not finding a computer version of the classic game. The unit itself is attractive and comes with a set of handsome pieces. The electronic board is touch-sensitive, and the computer within it will generate a new labyrinth with invisible walls each time a new game has begun.

The pieces are provided to help keep track of players' movements and the locations of walls, the dragon, and the treasure. The game may be played either solitaire against the computer, or by two humans and the computer.

In addition to generating the labyrinth, the console continuously calculates the players' strengths, monitors the movements and the locations of all players plus the dragon and the treasure, and provides sound clues to help find walls and warn of the dragon's approach.

After turning on the unit, you will hear the Warrior #1 tune. Select a difficulty level for the first adventurer, and choose a secret room. This will serve as sanctuary and home square for the character. Then press the "next turn" key, and hear the Warrior #2 tune. The second player, if any, then selects his game level and secret room. Hitting the "next turn" key twice informs the computer that the second player has completed his turn.

The microprocessor then picks a hidden treasure room, at least three squares away from any secret room. The random labyrinth is generated, and the quest begins.

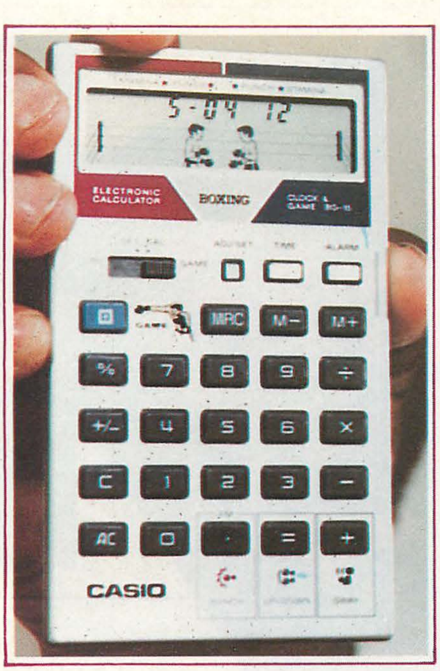
Each warrior moves a maximum of eight squares per turn. Each square traversed must be pressed until a beep is heard. Movement is up, down, left or right, but never diagonal. The unit emits Wall Sound when you bump into a wall, and you must then back up one square and stop. If you try to skip over squares, or move through a wall, it sets off an illegal move buzz. After one warrior's turn ends, the other's tune will sound, or if playing solitaire, the machine will issue your own warrior's tune again.

Continue moving, marking walls wherever you find them. Try to mark as many as possible before the dragon wakes up. This will make it easier to flee the great serpent if a retreat becomes necessary.

The dragon starts the game asleep in the treasure room. If any player gets within three squares of the dragon, it awakes. A special noise warns participants of this event. As soon as the player's turn is over, the dragon moves one square, signified by the Dragon Flying sound.

Once awakened, the dragon chases the nearest warrior. Although the dragon can only move one square at a time, it can travel diagonally and fly over walls. If the creature is chasing one warrior and the other fighter happens to get closer, the reptile will go after the nearest target. If either gamer gets the treasure, the dragon will immediately start after that warrior, even if the other warrior is closer.

If the dragon lands on the same square as a warrior, or vice versa, it will attack and wound. The warrior tune will blare forth, followed by the Dragon Attacks sound. After the first dragon attack, the maximum moves per turn drops from eight squares to six for the unlucky warrior. It decreases from six to four after the second dragon attack, and a third attack wounds the warrior too badly to continue.



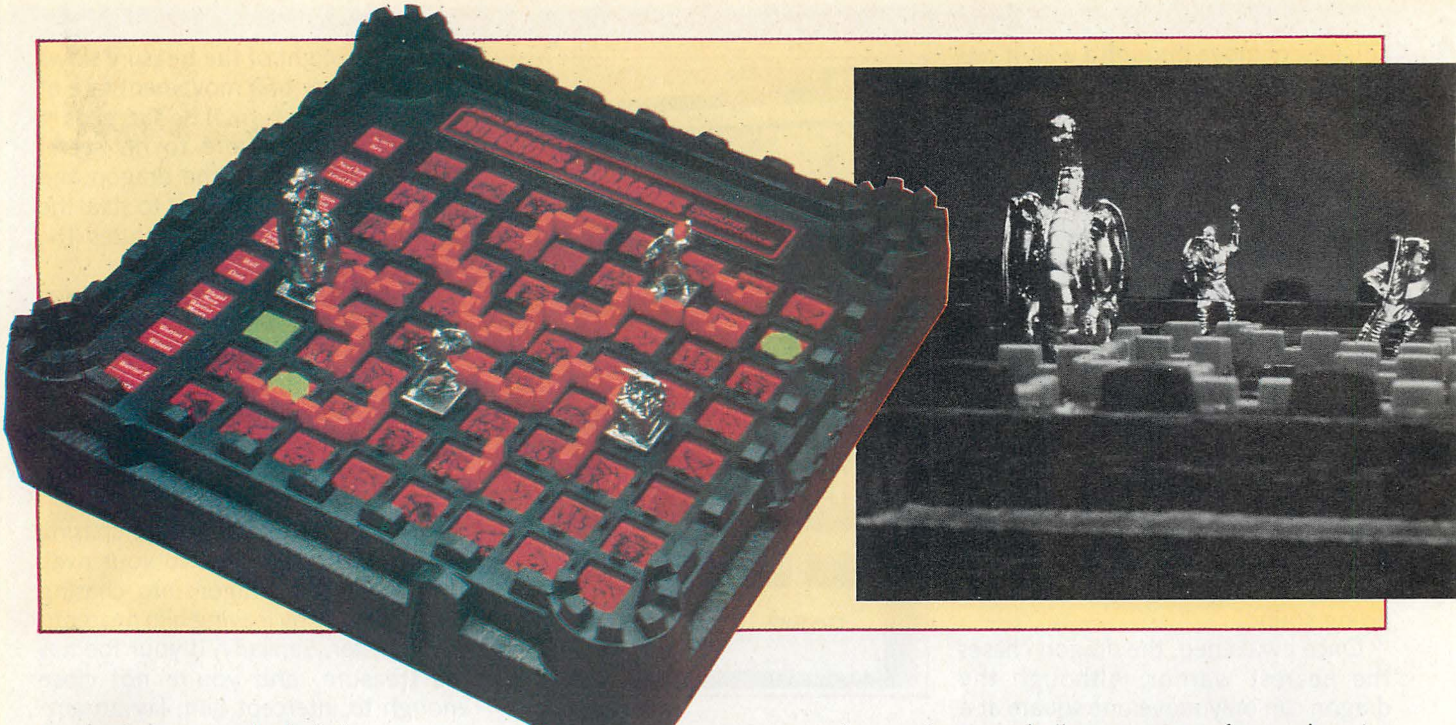
After any attack, the warrior must return to his secret room to recover.

If a warrior finds the treasure before the dragon finds him, a short Treasure Tune will play. The weight of the treasure slows the adventurer to a movement rate of four squares per turn. If he succeeds in returning the treasure to his secret room, avoiding both the dragon and the other warrior's attempt to steal the treasure, a special song salutes the winner.

In the early going, it is good strategy for the two players to cooperate in marking as many walls as possible. Try especially hard to map the area in the immediate vicinity of your secret room. It is in both players' interest to locate the labyrinth walls as early in the game as practical.

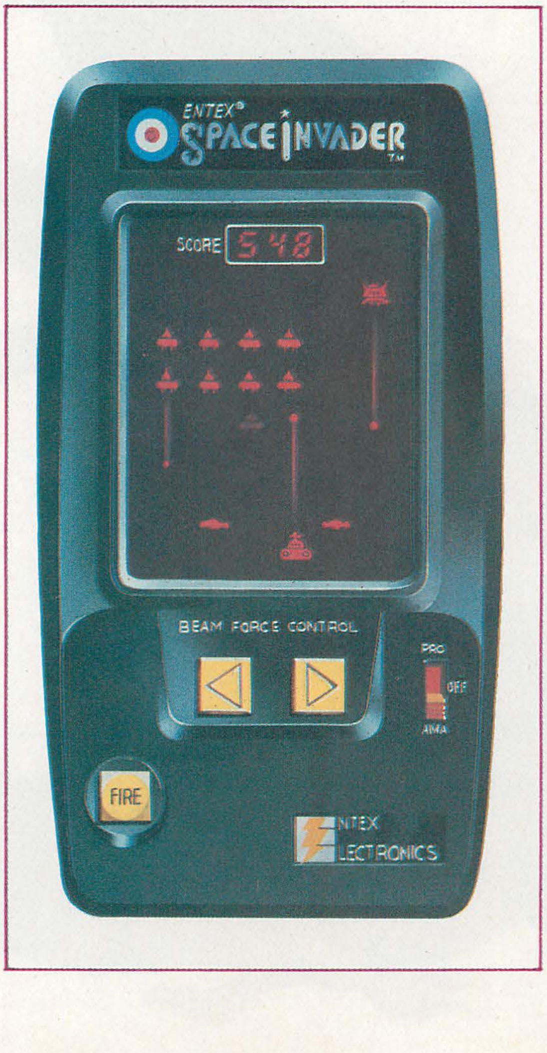
If the dragon is awake and chasing your warrior, pass close to your rival. This diverts the dragon into chasing the other guy, by leaving him nearer to the monster. Similarly, if your foe has the treasure, and you're not close enough to intercept him, lay an ambush by camping at the entrance to your adversary's secret room. Then engage in combat to steal the treasure. This is done by occupying the same square. The computer decides the winner, based on each warrior's strength factor at the time of the engagement. Remember that the weaker warrior will lose, but also keep in mind that the game restores each warrior's strength at certain intervals. That means you can never be sure how strong your opponent, or your own champion, really is.

The game has charms to entrance labyrinth fans. The 12 sound clues are distinct. Preview keys along the left side of the unit allow you to identify what you just heard in case your memory fails. The playing pieces, two metallic warrior figures, a



treasure trove, and a handsome dragon, add a dash of needed color. The red plastic unit contains a storage tray.

It is disappointing that Mattel decided to produce a simple game, playable by eight year olds and above, from the *Dungeons & Dragons* license. But within the limitations of a maze game for children, this standalone is handsome and playable. It should provide hours of pleasure for younger electronic arcaders.



Boxing Game Calculator/Casio

The **Boxing Game Calculator** from Casio is a four-way hit. It contains a continuous read-out digital clock, an alarm, an eight-digit calculator, and the exciting boxing game.

The time display is clear, giving hours, minutes and seconds. The calculator does four basic operations with memory calculations, percentages, and a full floating decimal point. The slim vest pocket unit comes in a leather folder that looks good at any business meeting when you whip it out of your pocket.

We assume the reason you'll be taking it out of your pocket is to play a quick round of the boxing game while no one is looking. This is what makes the *Casio BG-15* stand head and shoulders above the rest.

Set the mode selection switch to *game* and press the start button. After the highest previous winning number and points are displayed, the first round begins. Each match consists of eight rounds lasting about 30 seconds each. Bouts are won on points or by KO. There are 10 weight classes, from flyweight to heavyweight. As you go on winning, either by points or KOs, each new challenger comes from a heavier class.

Three keys activate the boxer: A punch key delivers straight head punches and body blows; the up/down key changes aim of punches, from head to body blows, and also defends your own pugilist from the opponent's blows; the sway key moves a boxer backwards to dodge a shot, and helps get maximum power from a counter-punch.

The digital read-out indicates the round number and reports the condition of the combatants. The left side of the read-out displays your opponent's stamina and the power of the punch just thrown. The right side delivers the same information for your man.

At the end of the bout, the victor is shown by either knockout (10 count or 3 knockdowns in one round) or on points. The winning number and points are then displayed, and the next bout begins. If you have won, your next challenger is from the next highest weight class.

The animation is a simple line drawing of two boxers' torsos, matrixed so that they can shuffle backward and forward in three positions per fighter, or be depicted flat on the canvas. The corner post of the ring moves to the right or left, depending on whether a boxer is on the attack or defense.

This is a real hit for calculating fans of the squared circle. It provides a big punch.

Reflex/Parker Brothers/$29

Reflex is a game of quick reactions for one or two players, a true test of coordination and timing. Flashing lights streak around the unit, and only the nimble-fingered will keep up.

Reflex looks like a flying saucer Twelve action buttons encircle a track of a dozen flashing lights. The buttons control the speed and direction of the lights traveling around the track.

Six red and six orange buttons divide the playing field in half. Each is identified by a number used for scoring and game selection.

The first game is **Juggler,** played solitaire. A ball of light flies around the track. The object is to juggle it as long as possible, sending it back and forth from the red side to the orange side without dropping it. It's like a circular pong game. The player taps a button the instant the ball reaches one side, to send it speeding toward the other side. The longer the gamer can bounce the ball from side to side, the faster it moves until he finally drops it. Four dropped balls ends the game.

The game scores by flashing a light beside three numbers, one at a time, to a maximum of 999. For a beginner, anything over 300 is very good, but with practice, the player's reflexes and coordination are bound to improve.

The second game, **Windup,** is for two players. A ball of light moves around the track. Press any button the instant the ball reaches it. If the light is moving in your direction, it speeds up and continues going the same way. If the ball is moving in your opponent's direction when you hit the button, it reverses its path.

Players continue trying to hit the ball each time it reaches their side, battling for control of the ball. Successfully keeping it moving in your direction builds up the speed, making it more difficult for the opposing player to change directions. The winner is the first player who makes the ball travel 10 times around the track in his direction.

Accelerator is a one-player game requiring the participant to boost the speed of the ball as high as possible, and then launch it into a crazy spin. Press button "A" the instant the light reaches it, and the speed of the ball accelerates. When you finally miss one, the unit emits a low sound, and the ball "free floats" around the circle. Press button "B" the instant it reaches that key to launch the ball. The light circles madly, then gives the score. The final tally depends on how fast the ball was moving when launched, and how close to button "B" it was (without) passing it) when the launch began.

The last two games are **Pounce,** for one or two players. Participants must stop seven sets of moving balls as quickly as possible. Two balls travel around the track at the same speed, but in opposite directions. Watch where the balls meet as they move around the track, then stop them simultaneously. If the balls meet at one button, press that button down. They will stop as soon as they reach that spot. If they meet at two buttons, keep those buttons pressed down to stop the balls. The longer the balls are in play, the slower they move, but of course the score drops the longer it takes to stop them. As soon as one set of balls is halted, the next pair appear until all seven sets are completed.

Reflex is a pretty game that will let you find out just how quick you really re!

Quiz Wiz Challenger/Coleco/under $40

Quiz Wiz Challenger is a question-and-answer contest for one to four players. The game is especially suitable for family fun because of its educational nature—you'll

Update: Stand-Alone Games

If you're one of those who think hand-held and tabletop games are cheap little devices that are only good enough to please the very youngest arcaders then it's time to take another look. They've come a long, long way in the last two years.

The great improvement has come in the area of matrixing. Many stand-alone games produce on-screen movement by switching from one pre-set matrix of the figure to be animated to the next one in the desired direction. Manufacturers have now perfected this technique to the degree that the latest devices feature multi-color objects that move in a much more realistic fashion than had previously been possible. The next step? Look for tiny video screens soon.

almost certainly be smarter after you play it than you were before!

The attractive unit has four playing stations, each with a quartet of buttons labeled A through D and colored red, yellow, green and blue respectively. Hoods at each station shield the buttons from the view of the opposing players. The control panel allows selection of two game play modes.

Quiz Wiz game cartridges are housed in attractive vinyl binders that also contain the *Quiz Wiz* question books. The cartridge slides into a slot under the device, allowing the book of questions to extend from under the console into the reader's play station.

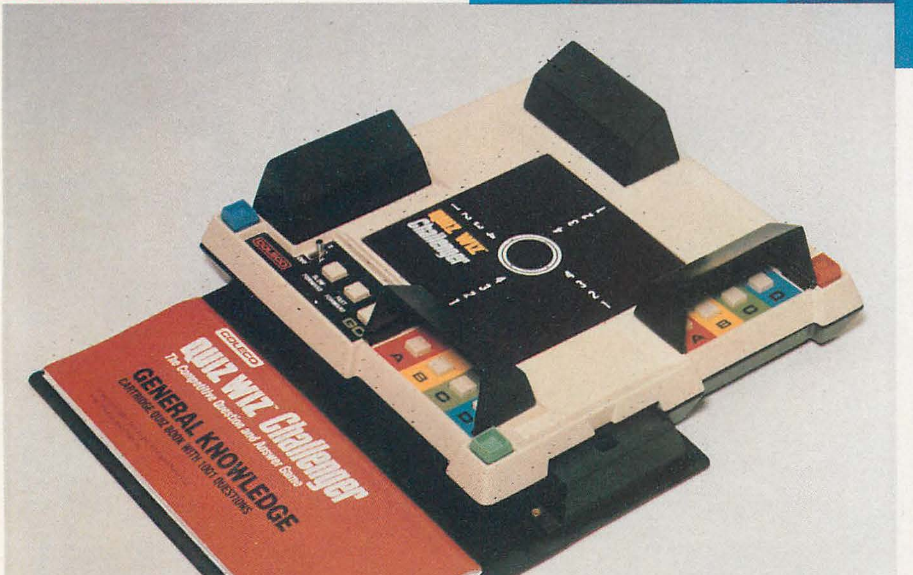
Participants choose an identifying color and place the appropriate marker in the holder at their stations. They check in by pressing the colored button that corresponds to their marker. One player takes the station of the reader, and operates the game controls.

The reader presses "Go", and a question number appears in the display area. The designated multiple-choice question is read aloud from the *Quiz Wiz* book. The reader then presses "Go" again. An electronic tune plays and lights flash on the console. Each player presses the button at his station to choose an answer.

Lights flash up and down in front of the players giving the correct reply, then stop next to number one, indicating one point scored. An incorrect answer produces a low two-note failure signal.

QUIZ WIZ
YES
NO

COLECO QUIZ WIZ


COLECO
QUIZ WIZ Challenger
The Competitive Question and Answer Game
GENERAL KNOWLEDGE
CARTRIDGE QUIZ BOOK WITH 1001 QUESTIONS

The next question number then appears in the display area, once more to be read aloud from the question book by the reader.

The round ends when one player scores five points, or when a total of 10 questions have been answered. Electronic notes and lights indicate the winner of the round. Each player then checks in again, and round two begins. The game continues for a number of rounds equal to the number of players. When the last round is completed, a victory tune plays and the lights flash at the winner's station. A score recap indicates how many rounds each player won.

Game #2 is a race against time. Only the first player with the correct answer scores in this mode.

Quiz Wiz Challenger is sold with the**General Knowledge** cartridge

QUIZ WIZ/Continued

question book. There are 1,001 multiple-choice questions in 19 separate fields of knowledge, ranging from philosophy, religion and geography, to art, history, sports and literature. The questions vary in difficulty, but the introduction advises that the average adult should be able to solve three out of every four correctly. There's even a chart showing how various age groups score in each category, broken down by sex, so the contestants can measure themselves against the averages.

There are 26 cartridge/quiz books available for the *Challenger.* The variety of subjects is so great that anyone should be able to find something to their special interest. Titles include **Movies, Sports, Sherlock Holmes, Rock 'n Roll, The Bible,** and **Super Heroes.** The cartridges retail for $7.95 each.

This handsome, well-built unit has a storage compartment underneath the console to hold the player's markers. At its relatively modest price, the quiz game fan can hardly afford to be without one!

World Championship Baseball/Mattel/about $65

Mattel's **World Championship Baseball** is a fast-paced game that requires coaches to devise strategies making the most of their team's strengths and weaknesses.

The game, playable by one or two participants, allows each coach to choose a batting order from a 15-man roster. Individual players have strong points and weaknesses that must be considered when putting together the line-up. Statistics are provided on each player, giving RBI's, average, stolen bases, arm strength, and whether he bats and throws left- or right-handed. The gamer also selects the skill level from four possible speeds.

The diamond is viewed from the first base side on a three-color vacuum fluorescent display. The ball is yellow, and the path of a pitched ball from the pitcher to the batter is indicated by a line of dots, making it easy to follow. The team at bat are in blue, and fielders are shown in red. The animation matrixes realistic-looking little men in every position.

Each keypad has a door shielding the player's strategy from the opponent. The visitor's keypad is on the left. When playing against the computer, use the visitor's keypad to direct the offense, and the home team keypad to select the lineup you want to play against. If the manager doesn't want to select the lineups, the computer will do it. If the gamer wishes, he can then substitute players in the lineup. As in real baseball, any player removed from the lineup can't be used again until the next game.

The fielder catching the ball blinks. Catching the ball in the air lights the "out" sign. On ground balls, fielders must throw to the base to retire the hitter. Just press the position on the keypad where you want the ball to go. Fielders automatically move to cover fly balls, directed by the computer.

In the one-player mode, the computer plays defense. When a ball is hit, one of the fielders catches it and makes the throw. On a ground ball, the throw goes to the mound, not to the base, to record the out. The catcher automatically returns the ball to the pitcher after a swing and miss. In the two-player mode, the team in the field must make the catcher return the ball to the pitcher after a ball by pressing the pitcher's position on the keyboard.

Just as in real life, pitchers in this game can tire, and the manager can substitute a fresh one from the ballpen. The runner automatically goes to first base when a ball is hit. You control the lead runner with the forward or backward buttons to steal bases.

All *World Championship Baseball* lacks is a can of beer and a couple of hotdogs to make you think you're in the stadium!

MATTEL

MATTEL ELECTRONICS® WORLD CHAMPIONSHIP BASEBALL
INNING
OUT!
CLEAR

Product Update: The Latest Stand-Alone Units

Some of the hottest new stand-alone games include:

Super Cobra (Entex) is a scrolling shoot-out with excellent graphics and responsive controls. Navigate your attack helicopter through several scenarios.

Tron (Tomytronics). This three-games-in-one unit evokes the major scenes from the Disney motion picture in fine style. Defeat Sark and then battle the dreaded MCP.

Monopoly Playmaster (Parker Brothers). Sit this device on the center of a regular Monopoly board and get a faster, more varied contest with plenty of mood-making sound effects.

By Joyce Worley

Pac-Man/Coleco/$60-$70

Now you can bring your favorite arcade game home in miniature form! Coleco has successfully translated **Midway's Pac-Man** into a tabletop unit that should please the most fanatic gamer. This diminutive device is a near replica of its big brother in appearance, and the play action is close enough to the real thing to give the arcader a run for his point total.

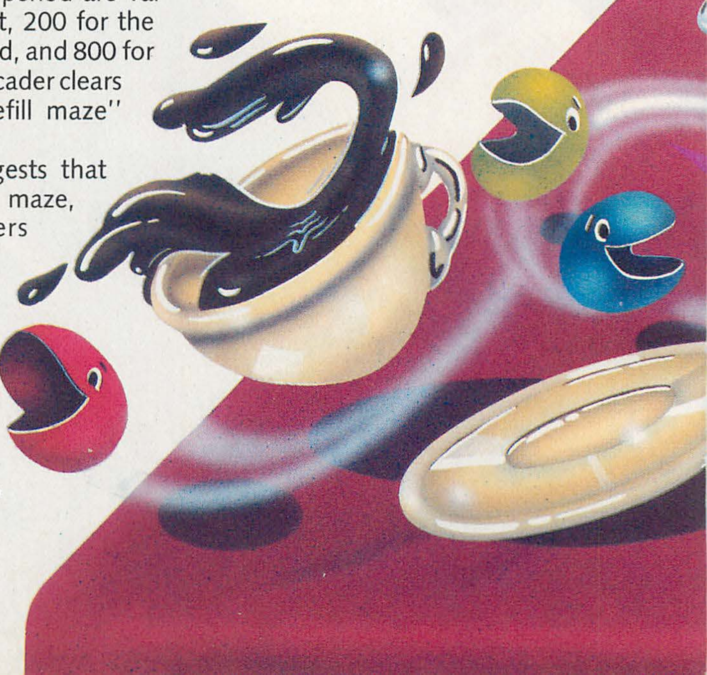
Turn the unit on by choosing skill level one or two. The left joystick chooses between three versions of the game: **One-Player Pac-Man, Head-to-Head Pac-Man,** and **Eat & Run.**

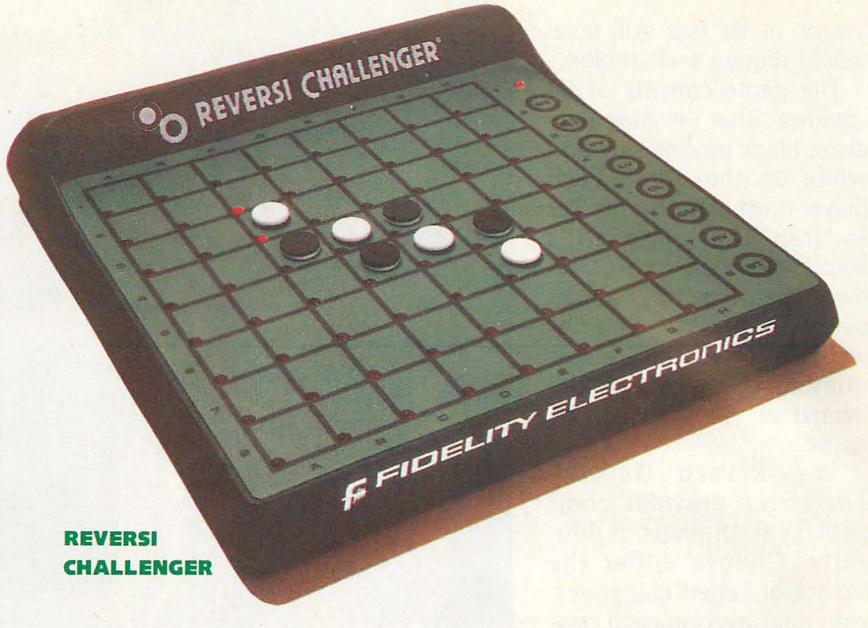
One-Player Pac-Man starts with the *Pac-Man* song. Race through the maze, eating yellow dots and avoiding the four red monsters that patrol the area and pursue the gobbler. Four power capsules (large red dots) provide the strength for Pac-Man to turn the tables on the monsters at least for a short period of time. After eating a capsule, the gobbler is energized and can devour monsters for extra points. But look out! After the energy wears off, the monsters blink a warning, then resume the chase.

When the gobbler eats a monster, the baddie reappears in its starting position and after a short delay, begins to chase the Pac-Man again. When the gobbler is eaten, a new one and another round starts. The player gets three "lives" per game, plus a bonus gobbler at 10,000 points. After the final score flashes, the unit shows the best score during the play session in progress. To start a new round, just move the joystick to the game you want to play.

Dots score 10 points, and power capsules score 50. Monsters eaten during a single energized period are valued at 100 for the first, 200 for the second, 400 for the third, and 800 for the fourth. When an arcader clears a maze, a special "refill maze" song plays.

Good strategy suggests that you race through the maze, avoiding the monsters and eating dots, devouring the power capsules until the time's right. When the monsters converge on the gobbler, eat a power capsule and gobble up as many of the four meanies as you can stomach before they begin to blink. When the energized tone gives way to the regular sounds, your power has dissipated. Then concentrate again on clearing the maze of dots while avoiding the monsters. When the baddies all head in your direction again, stop the Pac-Man near a power capsule and wait for them to approach. Then eat the capsule and do it all again. Using this technique will greatly increase the score. To extend the gobbler's lifespan even further, watch the way the monsters move through the maze





REVERSI CHALLENGER

a few times, and memorize the patterns they follow. Then plan the Pac-Man's movements to avoid them.

In *Head-to-Head Pac-Man,* two gobblers move simultaneously. When one chomper eats a power capsule, both are energized. If the gobblers catch one, the round continues until the second Pac-Man is devoured. The game ends when both players use up all three of their "lives".

Eat & Run strips *Pac-Man* to its essentials. The maze is empty of dots and contains only the four power capsules and four monsters. The gobbler must grab at least one capsule and return safely to its base in order to score points. The more he gets, the higher the score when he reaches base. But the gate will not open automatically! It randomly opens and closes, and the gobbler must time his run for the base to avoid the monsters and catch the door open.

There are differences between Coleco's *Pac-Man* and the Midway arcade machine. Obviously, the maze is much smaller, with single walls rather than double. There are 63 dots, instead of the 240 found in the coin-op, and the four power capsules are located in different positions. The practiced arcader will miss the scoring opportunities represented by the prizes that appear on each level of the arcade version.

Movement is not as fast in the tabletop version. There is a slight hesitation, especially when Pac-Man changes direction, and the player must consider this pause when judging his ability to stay ahead of the monsters.

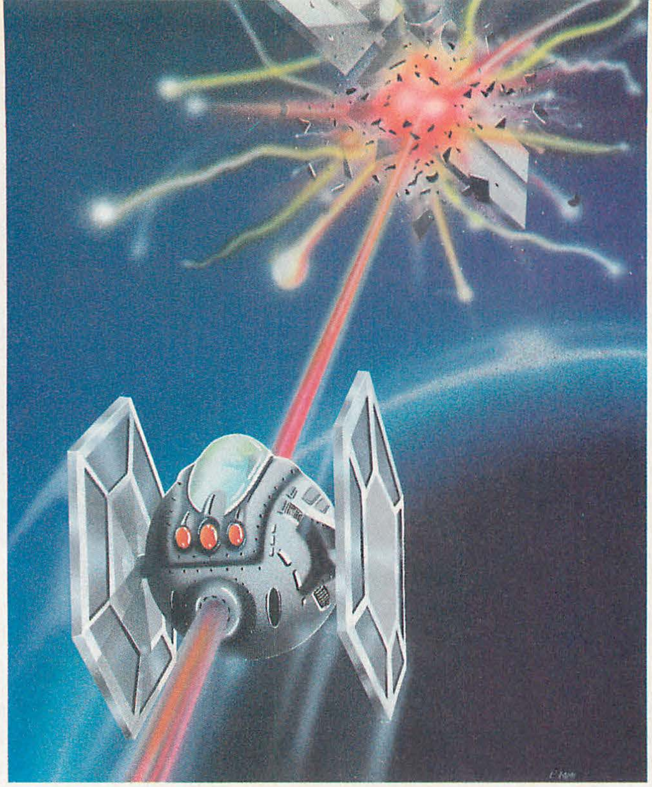
The Coleco graphics are very pretty, yet they do lack some of the niceties of the larger game. The monsters don't change colors when the gobbler is energized, and you can't tell which direction they plan to go by watching their eyes.

Yet these are insignificant differences when measured against the extreme attractiveness and playability of this game. Coleco's Pac-Man is an outstanding translation of the arcade thriller. It's beautiful to look at, a symphony of great arcade sounds, and, most important of all - fun to play.

Reversi Sensory Challenger/
Fidelity Electronics/About $150

Reversi players seeking competition will meet their match, when they take on the **Reversi Sensory Challenger.** This space-age computer program from Fidelity has players flipping their markers, if not their wigs, trying to defeat the Challenger in a modern version of the popular strategy game, Othello.

The rules of Reversi are deceptively simple — even a child can learn to play in minutes. Playing it well is another matter, though, and defeating the *Reversi Sensory Chal-*

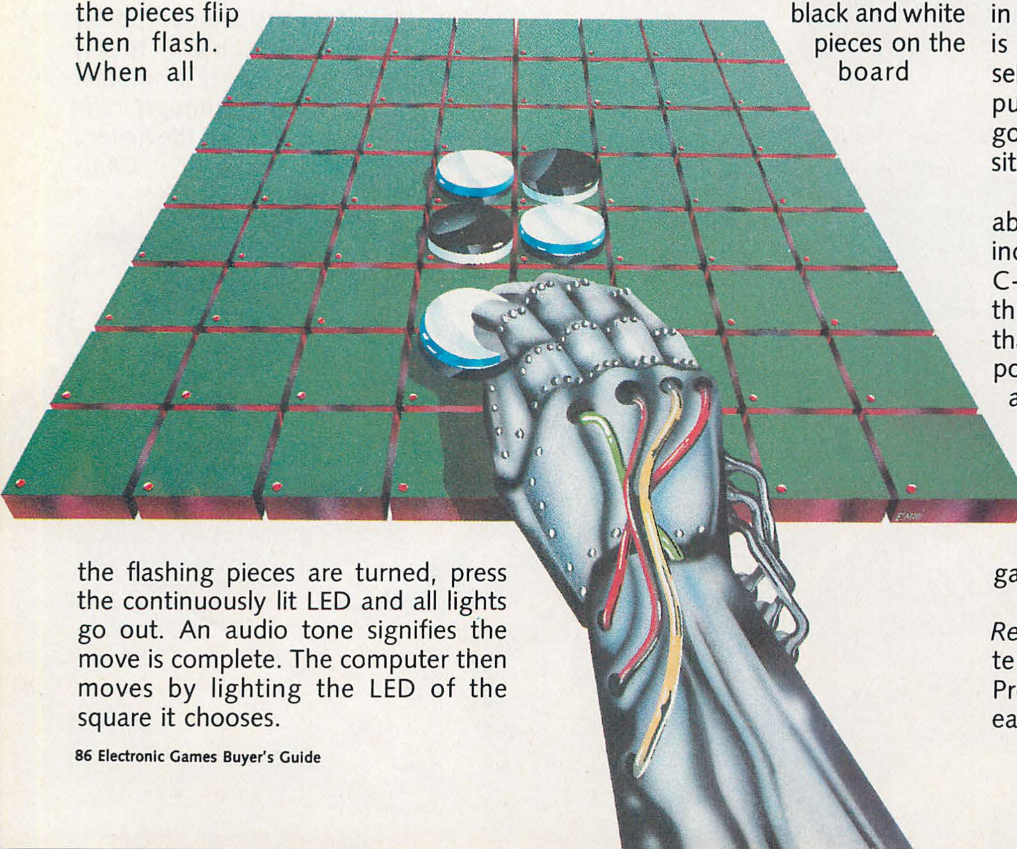


lenger at its top skill level would require a champion.

The game consists of 64 squares, and 64 magnetic discs, black on one side and white on the other. Each player must place his marker to trap the opponent's pieces between two of his own, then flips the trapped pieces to his color. The objective is to have the greatest number of pieces on the board at the end of the game.

The *Reversi Sensory Challenger* provides competition at 18 levels of difficulty. Choose either the Novice or Expert categories, with nine levels in each classification. When the game is turned on or reset, Novice Level One is selected. To change from Novice to Expert, press the Expert square before play begins. Levels may be changed at any time, even during a game, by pressing the LV key.

The player sets up the game with two white pieces and two black. The computer assumes the human opponent is playing black and making the first move, though sides can be changed by pressing the ST key. Press a marker onto the board and the pressure sensitive switches beneath the sensory playing surface register the move. That square's LED lights continuously, and the squares of the pieces flip then flash. When all the flashing pieces are turned, press the continuously lit LED and all lights go out. An audio tone signifies the move is complete. The computer then moves by lighting the LED of the square it chooses.



Play continues in rotation. This is a very volatile game, with markers getting flipped and reflipped many times. The game ends when all 64 squares are filled, it is not possible for either player to make a move that creates a trap, or all pieces on the board are the same color.

The *Reversi Sensory Challenger* provides great flexibility for players through its special features. The tone button turns the audio on or off, in case you prefer silent play. Position Verification checks correct placing of black and white pieces on the board should you lose track. If a player makes a move, then changes his mind, the Clear key takes that move out of the computer.

The Display Move key prompts the computer to suggest the human player's best available move. A Reverse key takes back unwanted moves. It is actually possible to reverse an entire game, move by move, using this key. If the computer is winning, a player can roll back moves to where he lost his lead and begin again from that point. The Start/Stop key changes sides with the computer or stops the computer's search process during its turn. Using the Problem mode, the arcader can set up any configuration of pieces and play that position.

When two humans want to play against each other, the computer acts as referee in the Monitor mode, keeping track of the game and signalling illegal moves. If anyone tries an illegal move, a tone sounds and no squares light. To correct, simply make a legal move and play resumes.

Reversi Sensory Challenger can play in two modes, random or non-random. The game automatically chooses the non-random mode when it is switched on and the computer always plays the move it considers best in any given situation. If random move is desired, press the RV key after selecting the playing level. The computer then chooses several possible good moves in response to a given situation, and picks one at random.

This is a beautiful unit, measuring about 10½ in. by 11½ in. and is 2½ inches deep. It operates either on 4 C-size batteries or by AC current through the use of the transformer that comes with the game. The field is pool-table green, with clear lettering and numbering as required, and the playing pieces are magnetic. The LEDs shine brilliantly red, and the entire appearance of the unit is extremely attractive. It will look handsome sitting on anyone's game table.

Fidelity Electronics entered the *Reversi Sensory Challenger* in the International Tournament of Othello Programs in Lyon, France, where it easily won all of its games.

OTHELLO

Gabriel/$120

Othello players are everywhere. The company's motto for the game, "A minute to learn, but a lifetime to master", does much to explain its phenomenal popularity. It's easy enough for an eight-year old, but sophisticated enough to challenge a master strategist. Since the game is so popular, there are always many players hunting evenly matched opponents. Gabriel's computerized version of *Othello* is one answer to this search.

This fully electronic unit requires no extra board or playing pieces. *Othello's* protective carrying case makes it safe to take along wherever the gamer goes. An attractive LCD display of a 64-square board fills the upper portion of the unit. Vertical rows are lettered A through H, and horizontal rows are numbered 1 through 8. Two indicator lights at the top of the board indicate whose turn it is. The lower two-thirds of the unit houses the simple controls.

The player chooses a skill level, graduated from one through eight, novice to expert. The computer displays two disc of each color in the center of the board. Black goes first, placing a disc that flanks at least one white piece. Pieces surrounded in this manner are flipped over to show the color of the capturing player. Play follows in rotation, and the competitor with the most pieces at the end of the game is the winner.

The computer will play either white or black. If desired, the player can change sides with the computer at any point in the game—handy when you land in an untenable predicament.

The controls are uncomplicated. The gamer presses Level, then any number from 1 to 8 to choose the level of difficulty. Press "2-Play" if two humans are challenging each other. To make a move, simply enter the letter/number coordinates of the desired board position, then press "Enter". At any time during the game, pushing "Score" will call up a numerical readout on the display.

Othello is sturdy enough to withstand the rigors of travel or extended play. It is also thoughtfully designed. For instance, the end of the housing containing the LCD board is tipped at an easy-to-see angle. Its appearance is attractive, though unpretentious. The buttons are bright green against the steel-grey case. Pleasant sounds accompany the action, and the computer buzzes if the gamer attempts an illegal move.

By eliminating the need for board and playing pieces, electronics have made this unit desirable for players who want to enjoy *Othello* everywhere they go. Gabriel's *Othello* provides a stimulating opponent for players of all skill levels in an uncomplicated and user-friendly computer version.

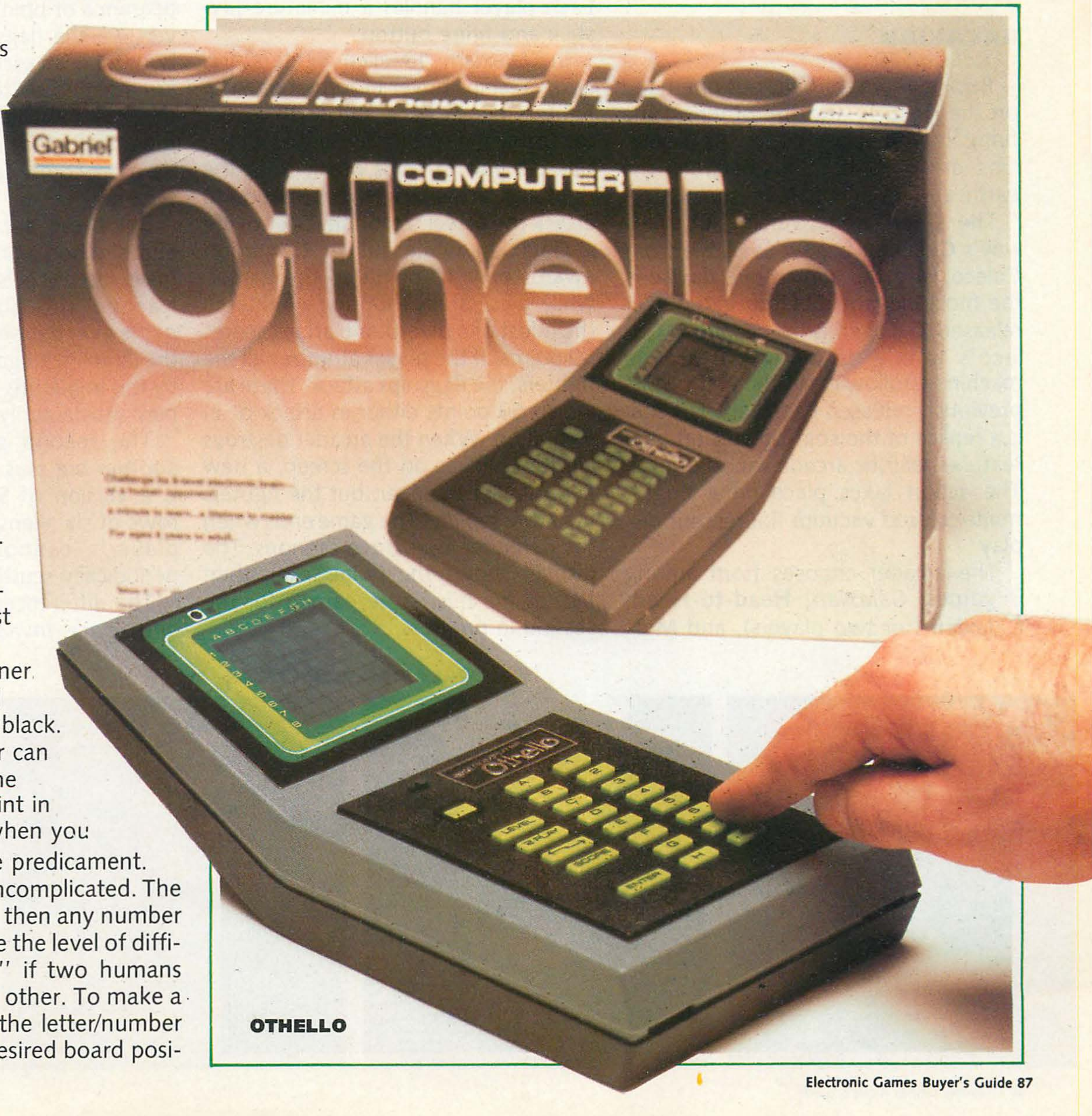
STATE-OF-THE-ART: STAND-ALONE GAMES

Hollywood's favorite slogan during the 1950's was: "Movies are better than ever!" Manufacturers of the newest table top and hand-held games could make a very similar claim—and with a lot more justice.

The improvement in the stand-alone field just since this column began last winter is nothing short of amazing. Better control devices, improved displays and more sophisticated designs have vaulted the best of the new stand-alones into a position where they are worth the attention of the serious gamer.

That's why this column has begun to upgrade the standards by which the games are being judged. That's why, occasionally, a review may be only mildly favorable—or maybe even negative—on a unit that could have drawn solid praise at one time.

Call it progress.



OTHELLO

More Mini-Arcades

Coleco has recently introduced two more titles in its series of mini-arcades—**Frogger** and **Donkey Kong.**

Frogger is the better of the two, a fairly good translation of the Sega coin-op, though the diving turtles give no warning.

Donkey Kong is an adequate, if not outstanding, edition of the Nintendo arcade machine.

Death Swoops From the Skies!

By JOYCE WORLEY

GALAXIAN

Coleco/$70

Buckle your seat belt, put one hand on the joystick, and the other on the firing button. Here come the Galaxians, and all that stands between the earth and certain defeat is you.

The stand-alone version of Midway's **Galaxian** is now available from Coleco, and this diminutive device is the most elegant tabletop game ever released. *Galaxian* is the second in Coleco's family of miniature arcade machines, following in the steps of its previously released **Pac-Man**. The unit is a replica of the coin-op version, and features realistic arcade sound effects. The action takes place on a bright, multi-colored vacuum flourescent display.

The arcader chooses from among 3 games, *Galaxian*, **Head-to-Head, Galaxian** (for two players), and **Midway's Attackers** (an invasion game). Each player handles a miniature joystick and firing button.

In *Galaxian*, 13 alien fighters and two flagships hover in formation. The fighters dance back and forth across the top of the screen. As they reach the sides, a pair of ships break from the right and left ends of the formation to attack the player's cannon. Destroying a Galaxian while still in formation awards only 10 points to the gamer, while successfully shooting a fighter in the midst of a dive-bomb attack scores 50 points. If the player atomizes all the fighters, the flagships attack. These are worth 50 points either in attack or in formation. When the arcader destroys all the enemies on the screen, a new field of aliens appear, but the fighters fire more rapidly. The game ends when the defender loses three cannons. The display shows the point total, then flashes the best score earned for the session in progress.

The animation is beautiful. The Galaxians are red and blue, and the flagships are gold and scarlet. The cannon is orange and green and fires blue missiles. The arcade-style hood that surrounds the playscreen cuts down on room light just enough to make everything on the field clearly visible.

The attacking Galaxians swoop down on the player's cannon in a graceful curve, relentlessly dropping bombs. When flagships enter the attack mode, they change into Galaxians, but they approach with a tricky bouncing motion that is devilishly hard to predict. Since the flagships are worth as much in formation as attack, take them out while they're sitting ducks, rather than waiting to catch them on the fly.

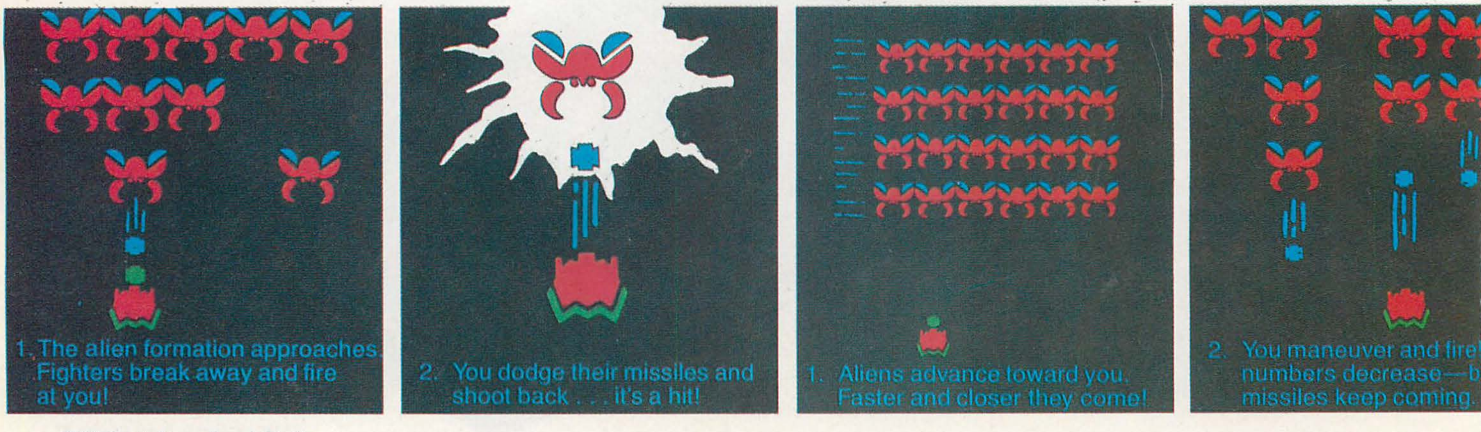
Obviously, there are differences between this and the coin-op version. There aren't as many Galaxians on the screen, and there's no differentiation among the rows of aliens, either in appearance or point value. In the arcade version, the flagships can attack with two Galaxian escorts, and point values are affected by the number of escorts destroyed ahead of the flagship. Also, the attack mode in the arcade version is a more complicated sweep across the screen.

But these are unimportant differences when considered against the main fact: This is simply the most attractive and playable stand-alone game ever devised. Arcaders who love the large-sized game will be entranced by this miniature, and they will find the play satisfactorily challenging.

The second game in the unit is another big plus. *Midway's Attackers* is a version of **Space Invaders**. Four rows of six aliens descend toward the player's cannon, and a flagship periodically scuttles across the top.

The differences between this game and *Space Invaders* enhance rather

GALAXIAN PLAYFIELDS



1. The alien formation approaches. Fighters break away and fire at you!

2. You dodge their missiles and shoot back . . . it's a hit!

1. Aliens advance toward you. Faster and closer they come!

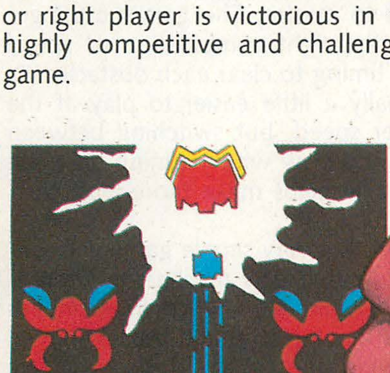
2. You maneuver and fire
numbers decrease—b
missiles keep coming.

than diminish *Attackers*. There are no shields; the player must scoot his cannon back and forth to avoid the hail of bombs. The aliens quick-step across the screen, and as the player shoots each one, they close ranks. This pokes a hole in the usual invasion game strategy. If gamers concentrate on shooting vertical columns of aliens, the lowermost attackers will surely land before they can be destroyed. Players must sweep across the rows, left to right and back again, demolishing the lowest rank of aliens so they cannot reach the bottom of the screen.

Head-to-Head Galaxian is the sleeper game of the month. This is such a good idea that some manufacturer should bring out a version for the home video screen. Two players compete in all-out war to destroy each other's fighters and defensive cannon. The left joystick moves the defender at the bottom of the screen, while the right controls the defender at the top. A row of four fighters protects each cannon. Single fighters periodically break from formation and dive bomb the opposing player's cannon. Shooting an enemy fighter tallies 10 points in formation, and 50 points in attack. If you accidently shoot your own fighter, the points are added to your opponent's score. Shooting a defender counts 200 points.

Head-to-Head Galaxian has a short version (about one minute) and a long version (approximately two minutes). About 15 seconds before the game ends, the sounds change to indicate this. Then the difference between the two players' scores is shown, with an "L" or "R" to indicate whether the left or right player is victorious in this highly competitive and challenging game.

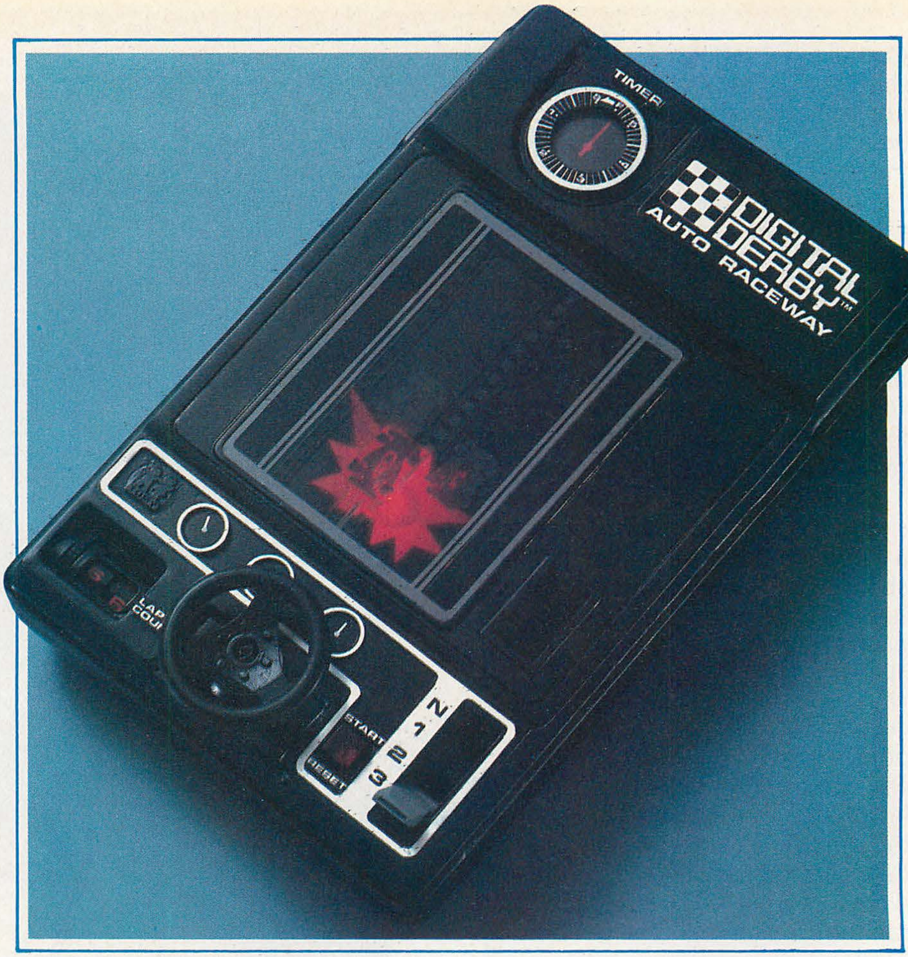
neir
their



3. You quickly fire through the gap at your opponent! It's a direct hit . . . he's destroyed!

There are few serious flaws in this unit. The joysticks seem a little lightweight for the joy they're doing. Also, the arcade-style hood surrounding the playfield makes it hard for two players to see the screen at once in the head-to-head games. It would also have been better design to put the single-player joystick on the right instead of left, so that right-handed players wouldn't have to reach across the control panel to maneuver the joystick with their best paw.

These quibbles aside, Coleco's *Galaxian* is truly a state-of-the-art unit. If you're only going to buy one stand-alone this summer, make this the one!

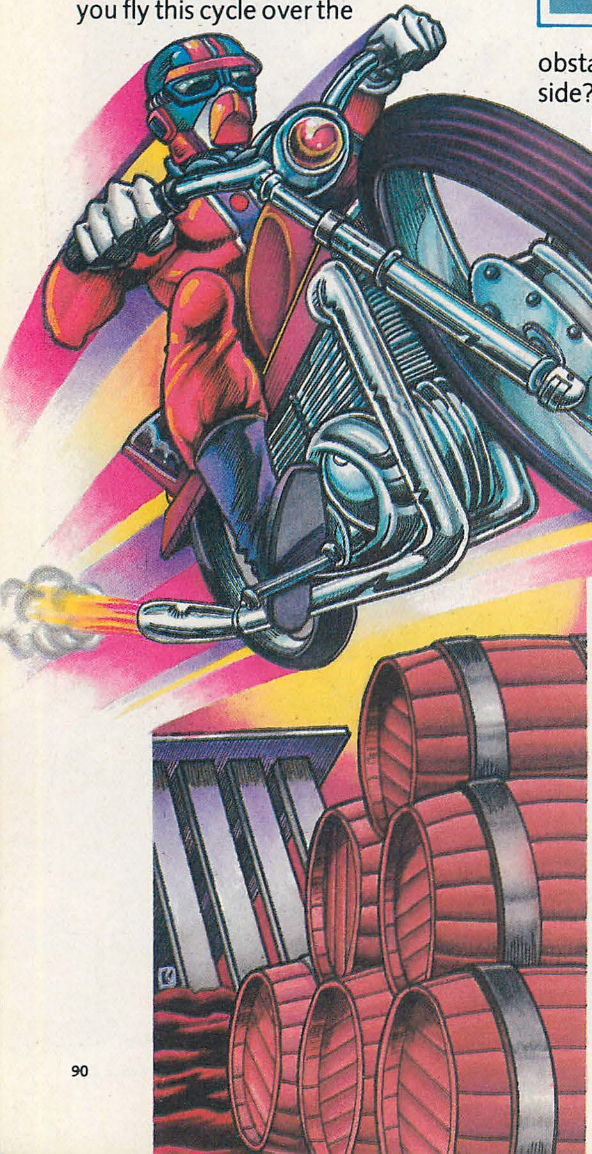


DIGITAL DAREDEVIL

DIGITAL DAREDEVIL

Tomy Corporation

The throbbing engine bucks and the roar of the motor pulsates in your ears. Looming ahead is a stack of oil drums—and there's no way to miss them! Rear the bike onto its back wheels; you have no choice but to leap over the barrels. Can you make it? Can you fly this cycle over the obstacles and land safely on the other side? A successful jump will make even Evel Knievel proud!



Digital Daredevil invites the arcader to try his skill as a motorcycle stunt driver. The cyclist is a stationary side view image on the screen, facing a moving strip of film representing the roadway. As the film strip slides across the screen, the cycle appears to be racing down the road. The cyclist must pass by or leap over several obstacles in the street, including traffic signals, a stack of oil drums, and a car.

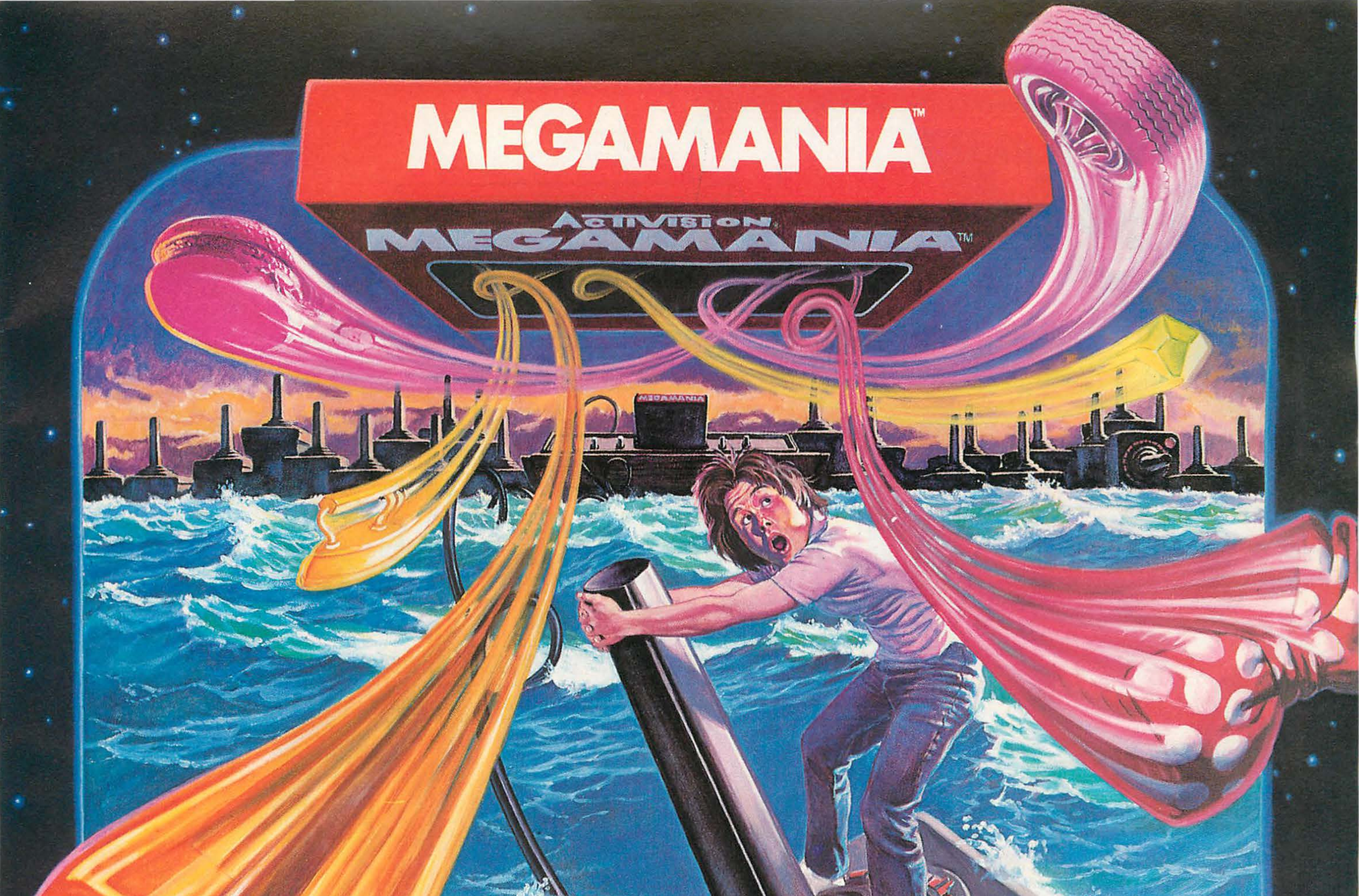
The gamer chooses between two skill levels, and can vary speed during the race from high to low. Use one hand to control the speed button and the other for the jump and reset buttons. Press the jump button at just the right moment and the cycle flies right over the obstacle. But if your timing is a little off, the cycle crashes in a blaze of flashing lights. The reset button returns the motorcycle to an upright position and also functions as a pass button if he's not in good position for the next jump.

The arcader scores points for successful jumps, and loses valuable time for every crash. The reset button must be depressed after each wreck until the cycle has returned to the proper position, and this takes several seconds.

Digital Daredevil is unexpectedly hard to master. The gamer must get just the right combination of speed and timing to clear each obstacle. It's actually a little easier to play at the faster speed, but switching between fast and slow when coming up to an obstacle helps make more leaps successful.

This is a very simple game with uncomplicated play mechanics. There is no real animation, just painted images on a moving strip and a back-lighted drawing of a cyclist. The controls are sturdy buttons that should withstand a lot of hard use. A two-digit scoring dial counts to 99, then rolls over to begin again.

This is a good bet for the younger arcader with a yen for a dirt bike!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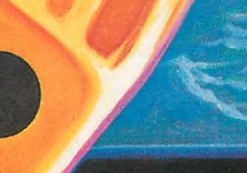
The attack is so terrifying, you just might call it the worst thing you've ever seen on television. We call it MegaMania,™ a new video game for your Atari® Video Computer System.™ Designed by Steve Cartwright.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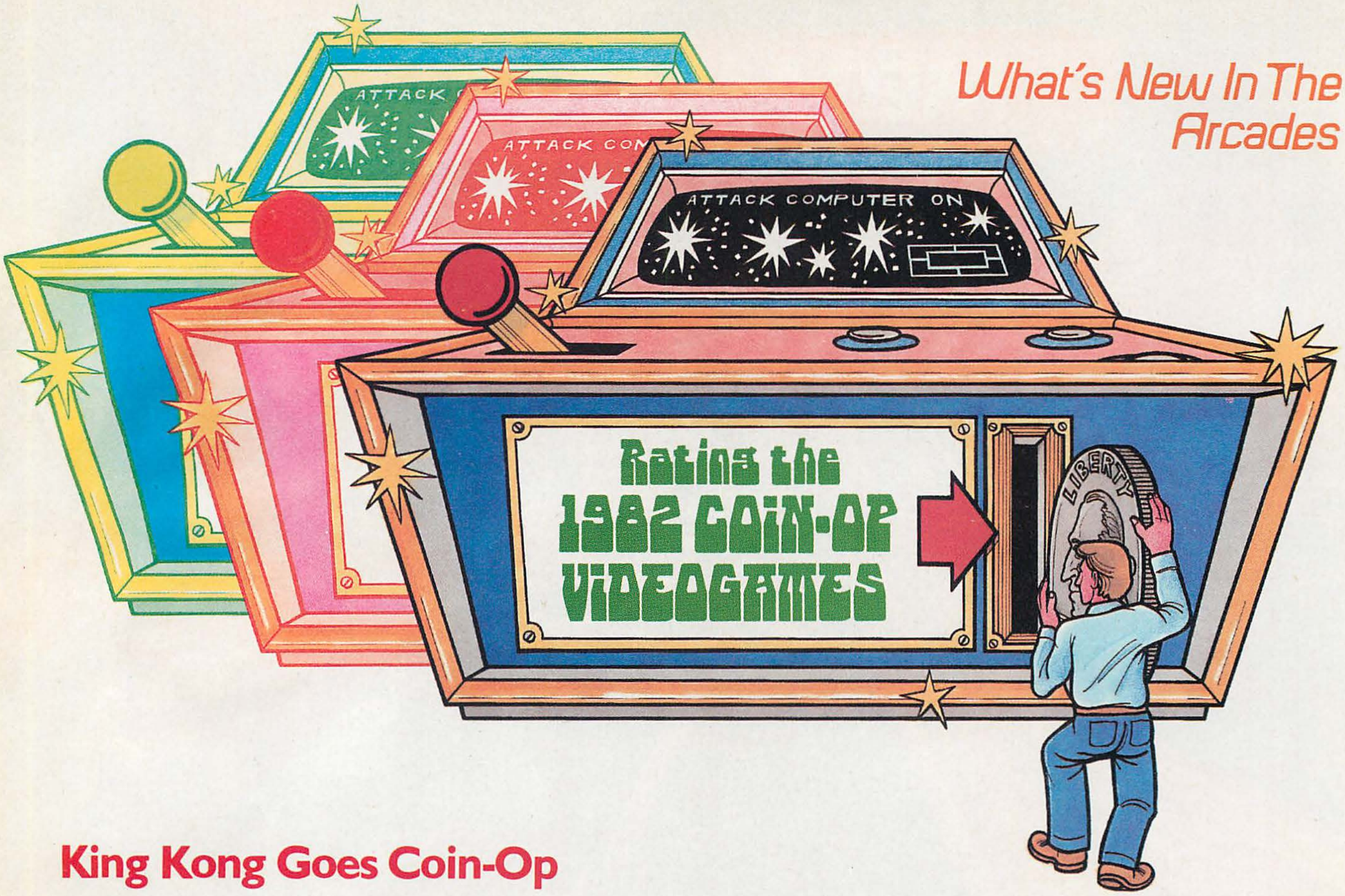


Rating the 1982 Coin-Op Videogames

King Kong Goes Coin-Op

FROGGER

By Bill Kunkel

How quickly do things change in the commercial arcade world? How's this for an example? Just last issue I complained about the number of unoriginal ideas clogging the creative coin-slots of the game designers. It seemed as if the few original ideas would almost certainly be buried under the sheer mass of **Pac-Man** and **Defender** clones.

Amazingly, however, the cream has risen to the top and a handful of truly exciting coin-op videogames are getting the lion's share of arcading attention.

Donkey Kong (Nintendo)

Did I say "lion's" share? Better make that "gorilla's share", since the single biggest (in more ways than one) character in the "up-and-coming" department is Nintendo's **Donkey Kong.** Members of the coin-op *cogniscenti* are already swarming all over this charmer that boasts a storyline right out of a '40's "Popeye" cartoon and graphics to match.

The concept behind *Donkey Kong* is as follows: Kong has snatched a beautiful woman and scaled the side of a massive building frame. The misguided monkey carries his prize to a perch at the very top of the skeletal superstructure, where he puts her down in order to do a cocky strut back and forth along the topmost girder and periodically thump his chest.

The gamer assumes the rule of Mario, the brave, little carpenter who decides to save the lovely damsel. Mario begins the perilous climb toward Kong's aerie only to find that he may not survive long enough to even reach his enormous adversary, because the gigantic ape is rolling barrels down the slanting, Rube Goldberg-type building frame. Mario must climb from level to level (they are connected by ladders) while avoiding the barrage of barrels that the ape keeps cascading down upon him.

Mario can avoid the barrels by either climbing to the next level (where another rolling container may be on its way) or leaping over the oncoming casing. Arcaders accomplish this through the use of a special "leap" button. The gamer wins by actually reaching the top and saving the terrified beauty.

Much of *Donkey Kong's* appeal doubtless lies in its marvelous visuals. The barrels, girders and background are all faultlessly rendered, while the animation of Kong, Mario and the girl takes this videogame as close to the realm of film animation as anything else in today's arcades.

Frogger/Sega-Gremlin

While space ships and explosions still star prominently in the coin-op universe, a definite trend is developing toward "cute" games, with wider (read: female) appeal than the macho shoot-em-ups. **Frogger** is another in the latest batch of whimsical videogames. It may be the first coin-op inspired by a home videogame, a distinctly unusual turnabout. Dave Crane's **Freeway** (Activision for the Atari VCS) challenged gamers to get a chicken across a busy, ten-lane expressway. *Frogger* takes that idea and runs or hops with it. The result is a captivating blend of good game play and compelling graphics.

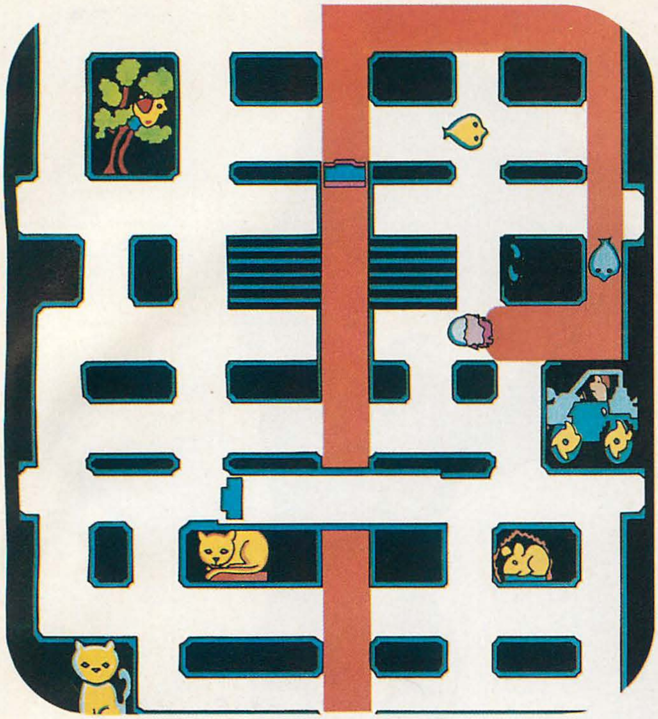
The top half of the playfield is a straight knock-off of Freeway's traffic-jammed roadway, but once the little croaker gets across the road, the more interesting part of his journey begins. Frogs must now get across a flowing river, leaping onto passing logs and turtles in order to make their way to the bottom of the screen, where a special grotto awaits each of the adventurous amphibians.

Menaces include crocodiles, poisonous water snakes, otters and the occasional diving turtle, which may decide to go underwater just when a frog hops on board!

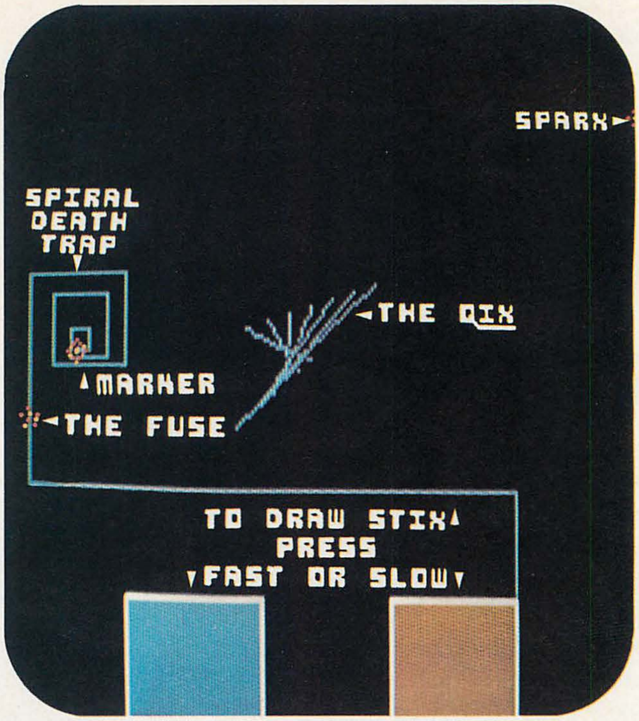
There's even a lady frog who can be escorted home for extra points, and then, of course, all those delicious bonus bugs! MMmmmmm!

Make Trax/Williams

Very few videogames are *totally* original. It isn't always the unique-



MAKE TRAX



QIX

ness of the basic ideas that determines a game's success, but how cunningly the designers add new wrinkles to old classic elements. For example, there were maze chase games before **Pac-Man,** but it was Namco's innovative use of *several* elements that fused their creation into a work of original genius.

Williams' **Make Trax** is without a doubt the most creative variation on the maze-chase theme since the gobbler made his debut. The gamer is a painter who must coat the floors of six maze-fields while being hassled no end by a bevy of delightfully maddening creatures. These range from mischievous kittens to flying birds whose droppings ruin the lovely paint job.

Each field offers a pair of scrolling tunnels, a paint brush and a roller, which must be used in order to deal with the mice, cats, goldfish and the rest. There's even an invisible man who periodically canters across the labyrinth, leaving a trail of footprints that must, of course, be repainted.

Make Trax seems to have all the elements of a classic arcade hit. The characters are engaging, brightly colored and beautifully stylized. The animation is as smooth as the flowing paint. Game mechanics are slightly more complicated than, say, *Pac-man,* but are not in the least confusing.

Kick-Man is the next step beyond the hugely popular **Pac-Man.** The full scoop on Midway's newest will be in the next issue of **EG.**

Kick Man
MIDWAY

KICKMAN

Qix/Taito

Qix (pronounced "kicks") is Taito's first major entry since its **Space Invaders.**

Like *SI,* **Asteroids, Tempest** and **Defender,** *Qix* is an original. Nothing else in the arcades is quite like it, in concept, play or audio-visual effects. It is an original and entertaining contest that should make for a pleasant—and highly challenging—change of pace from mazes and pure-action games.

What we have here is a designer that blends strategy and hand-eye skill in a fascinating, but graphically bland, contest. *Qix* is actually one of those computer-graphic demonstration programs in which a series of lines are created in sequence on screen. As a line at one end disappears, another materializes at the front, creating the illusion of spiralling movement across the screen. Using a "marker" controller, players must draw boxes on the screen without being hit and destroyed by the Qix. The Qix is overcome when the arcaders boxes in at least 75% of the screen. Bonus points are earned for filling up more space.

As with most coin-op contests, *Qix* gets harder as play progresses. Eventually, the Qix undergoes fission and becomes a pair. Sparx, Fuses and Spiral Death Traps all show up if the arcader can keep the game going long enough.

By Bill Kunkel

Sequels are a way of life in the popular arts, whether the subject is books, movies, records or TV mini-series. If something does well once, the reasoning goes, it should do just as well the second time.

Pac-Man, the Original Maze-Chase Contest from the Midway Div. of Bally, Raised Arcading Consciousness Throughout the Nation; Now the Lady Gobbler, Ms. Pac-Man, Has Arrived to Add Glamor to the World of Coin-Operated Videogames

Well, the sequel-mania that has afflicted the rest of our culture has recently turned up in the world of videogames with a couple of follow-ups to coin-op classics.

The re-make, or "deluxe" versions of popular games began with a souped up **Space Invaders** unit from Midway. Next, Atari turned out the incredibly challenging **Deluxe Asteroids.** They had a rather prosaic reason; there was a flaw in the programming of the initial version that allowed astute arcaders to play for hours on a single quarter.

Now, however, the arcades are filling up with new and different games that are either direct sequels—such as William's brilliant **Defender** follow-up, **Stargate**—or new games featuring recognizable characters from previous coin-op hits. Exidy, for example, plans a series of adventure coin-ops using their "Winky" character from **Venture.**

Finally, the most popular arcade game of all-time, **Pac-Man,** has begun turning up in deluxe editions featuring such options as an invisible maze and six scrolling points instead of two. But even more interesting is Midway's special "thank you" to all the arcaders who took the Pac-Man gobbler into their hearts.

Ms. Pac-Man/Midway

Ms. Pac-Man is a maze game quite similar to the original, with some vital variations. For one thing, our gobbler is a gobblette, a Ms. Pac-Man if you please. She's a darling shade of pink and wears a bow atop her head.

Ms. Pac-Man offers a quartet of mazes to keep players from becoming either bored or overly familiar with the labyrinth. Moreover, the action of the goblins is so random development of patterns becomes a virtual impossibility.

From the throngs of players huddling around the available machines in the New York City arcades, it looks as if the distaff gobbler may wind up as big a hit as her male counterpart. In release less than two weeks as this column is written, *Ms. Pac-Man* is already in the "top ten" list in *Play Meter* magazine.

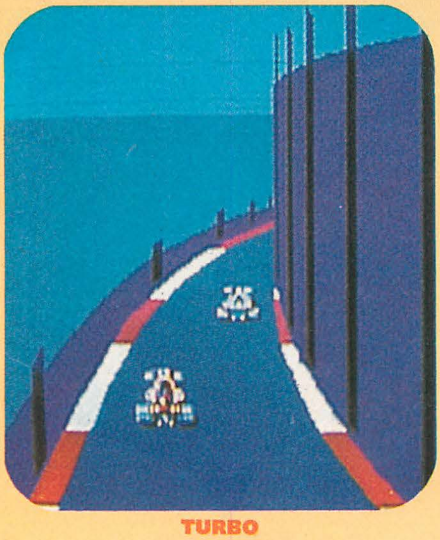
Among the other graphic goodies in this delightful videogame is a scene in which a stork appears on screen carrying a tiny pink bundle of hungry joy—a tiny, squeaking Pac-Baby!

Eliminator/Sega-Gremlin

One of several new vector-graphics coin-ops utlizing color monitors, Sega's **Eliminator** is both a treat for the eyes and an interesting game. Arcaders steer a cannon-armed spaceship around the Eliminator base, a titanic space station ringed with a destructive forcefield that can be breached only through the small corridor in the circumference of the mighty shield.

In addition to dealing with the Eliminator base, gamers must cope with an ever-increasing number of alien spaceships. These pesky little ships repeatedly fire on the player's spacecraft, pushing it back and bouncing it against the border of the playfield in an attempt to send it careening into the forcefield of the Eliminator base. Any ship, whether it is controlled by the player or the alien, making contact is

TURBO



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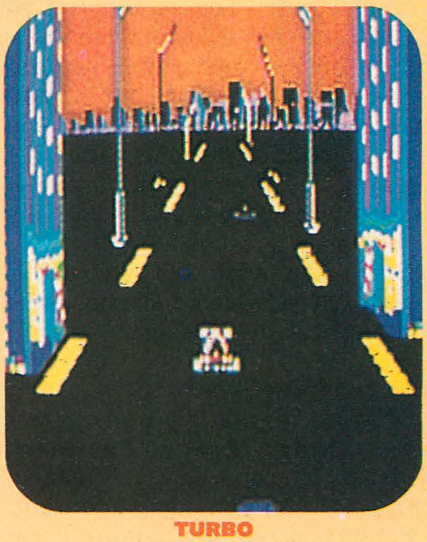


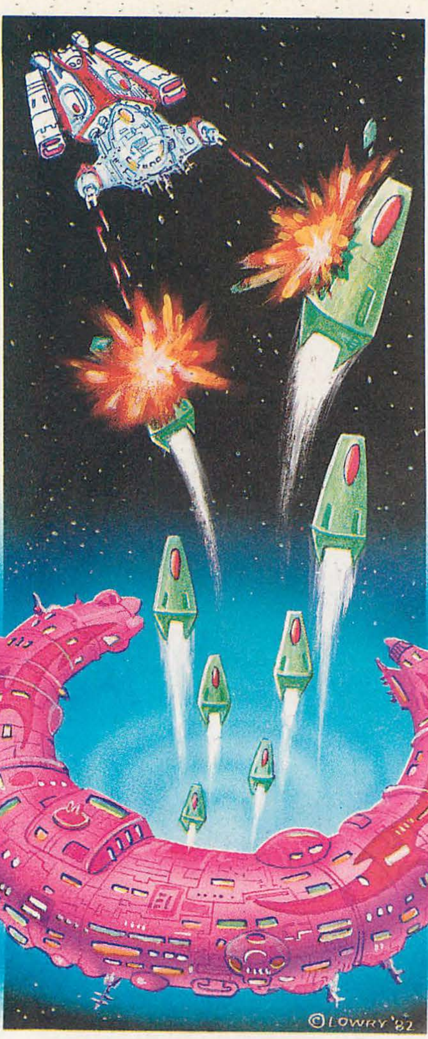
TURBO

instantly incinerated.

Players divide their time and concentration between dealing with the pesky alien ships and maneuvering into position to take a clear shot down the empty corridor. Hits on the unprotected area of the base result in one of the most astonishing explosions in the history of arcade games.

The only real complaint with *Eliminator* is that it becomes too difficult too quickly. Also, a joystick would have been a far more functional control device than the bevy of befuddling buttons regulating everything from rotation to thrust and firing.

Still, the graphics and innovative game concept make *Eliminator* a real contender for the coin-op big time.



Turbo/Sega-Gremlin

Also from Sega, Turbo is, flat out, the most graphically outstanding car race videogame ever created. Gamers control on-screen formula racers and roar over an eye-popping array of terrain. One second, the driver is moving over an ordinary, tree-lined highway, with beautiful mountains visible in the distance. Then the city looms ahead. Moments later, the car is streaking down urban streets. Night falls and the street lights on either side of the road flare into life. Suddenly, the road becomes increasingly hilly. Cars moving toward the gamer rise and fall from view as they climb and descend the mountainous geography. Players are then startled to find themselves in tunnels, the luminous lane-markers and scant underground lighting serving as the only guideposts.

Gamers control a traditional steering wheel, shift gears, and determine speed by pressing down on the gas peddle attached to the base of each machine. The action is realistic, and each scenario calls for specific driving skills. When you abruptly discover yourself high atop an incredibly winding mountain road, you must cut speed on the turns. In another segment, drivers must pilot their vehicles over a roadway of solid—and very slick—ice.

Graphically, in terms of audio and as a plain old videogame, Turbo is the goods. Check this one out.

ELIMINATOR

Armored Car/Stern

Drawing inspiration from games such as **Dodge 'Em** and **Pac-Man,** Stern has come up with a fairly unique, and highly interesting, game concept.

Players drive an armored car through the streets of a large city, seen from high above. While avoiding the other, man-hunting vehicles that also prowl these streets, the armored car must pick up the various moneybags—symbolized by dollar signs—located at random spots on the playfield, and take as much of the loot as possible to the local bank.

The playfield scrolls horizontally, giving the action more scope. The gamer can also pick up extra gas at the gas station, and even collect bonus items, such as the keys that are occasionally discovered on the streets.

Armored Car is a delightful, fun contest that utilizes interesting audio and graphics to create a game that even young arcaders should enjoy.

Kick-man/Midway

To get back to the subject of sequels, Midway's **Kick-Man** is a follow-up of another sort. In this one, which may not yet be available in your area, players control a character on a unicycle, moving him back and forth to break or catch the balloons that fall from the top of the playfield.

As to the game's title, well, when a balloon gets past our hero, a special control called the "kick button" allows him to kick the colored globe back atop the row of balloons on his head.

How does it work in as a sequel? The ubiquitous gobbler turns up to help out the gamer by devouring some of the balloons piling up on the cyclist's dome. But then, you know that gobbler—he'll eat *anything.*

Okay, boys and girls, that's "game over" for this installment. Make sure you turn up next issue, though when the subjects will include the latest coin-op contender from Atari, a fantastic new videogame by Centuri, and other new entries in the coin-op sweepstakes.

By the way, fellow coin-oppers, we'd love to hear any comments you readers might have on your favorite coin-op arcade games.

We're also interested in the subject of "vanity boards", those lists that many arcade games flash after each contest displaying the top scorers on that machine. All over the country, the top players are leaving their marks on all the hottest machines. Are you a top arcader? If so, let us know your monicker, both full name (for top score) and three letter initials.

So keep those cards and letters coming in now, ya hear?

By Bill Kunkel

You'll Get a Kick Out of Kick!

Kick/Midway

Originally entitled *Kick,* **Kickman** gives trackball-spinning arcaders a chance to control a clown riding a unicycle in the middle of a balloon storm. Sound a little strange, my quarter-clutching comrades? Perhaps, but the wacky scenario is only part of the fun in this wild new Midway videogame.

Players control the cycle's horizontal movement as it lurches back and forth across a beautifully rendered cityscape. Suddenly, vividly-colored balloons begin floating down from the top of the playfield. The clown is wearing a hat with a tiny pin on top of it, and it's his job to see that none of the balloons touch the ground.

In the first wave, the task is easily accomplished. Simply allowing the balloons to land on the clown's head bursts them. With the second round, however, things get complicated. Now the balloons no longer break. They simply pile up on bozo's dome, and eventually form a multicolored column, much like a faceless totem pole.

As the pace increases, players will want to call their secret weapon into play. There's a special "kick" button on the game's console that lets arcaders boot the occasional stray balloon back into the air where they have a second chance at balancing it on the clown's cranium. Pretty soon, some familiar faces start to show up. First, the **Pac-Man** gobbler appears, just in time to do his thing and chomp the tower of balloons perched precariously on your harlequin's head. Later on, gobbie's side-"kicks", the goblins, also put in cameo appearances and must be caught just like the balloons.

While I'm not entirely convinced that the trackball is the ideal type of controller for this particular game, this is a minor quibble. This is one of the most delightful new games to appear in months, with its gorgeous, Walt Disney-style graphics and singular sound effects.

If You're One of the Millions of Arcade Aces Who Loves Asteroids, the Chances Are Strong That You'll Rave Over Space Duel

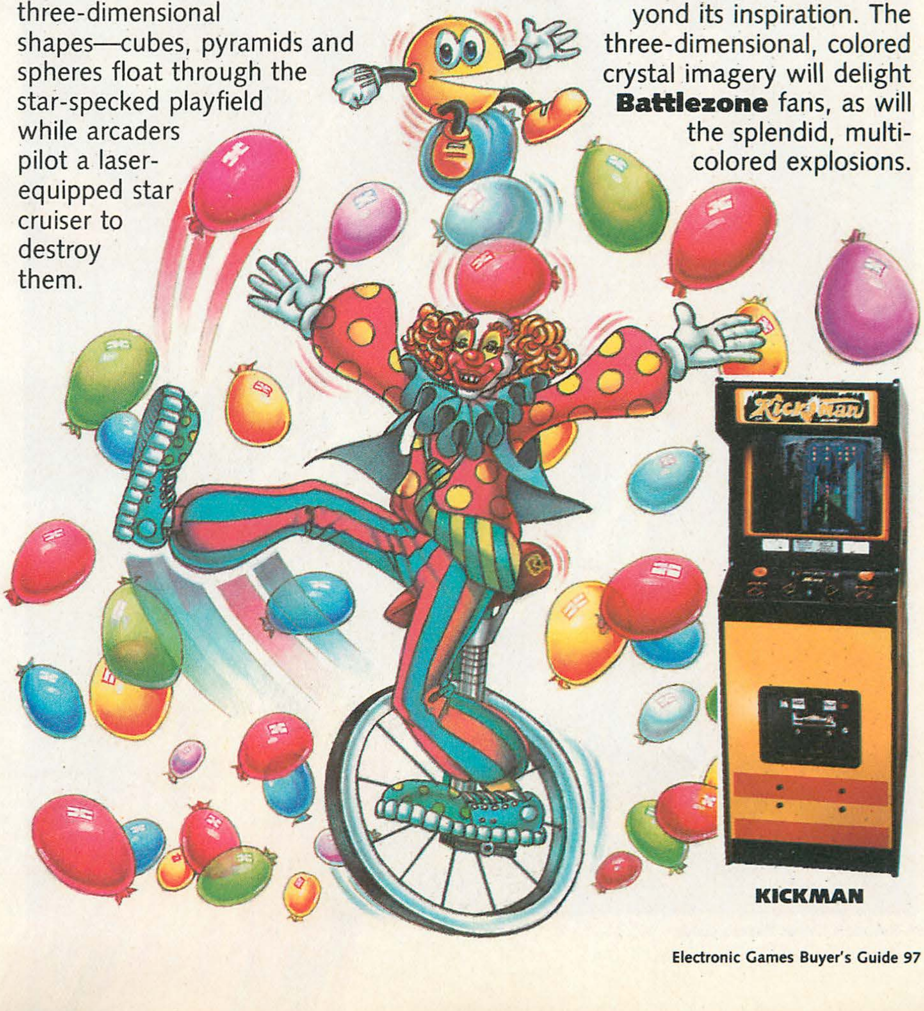
Space Duel/Atari

Space Duel is, essentially, a color version of **Asteroids.** The word "essentially" must be emphasized, however, for this new game is also much more. Utilizing the magnificent color Quadrascan graphics seen previously in **Tempest,** *Space Duel* lights up the arcade firmament with a cascade of three-dimensional shapes—cubes, pyramids and spheres float through the star-specked playfield while arcaders pilot a laser-equipped star cruiser to destroy them.

Unlike **Asteroids,** play sequences do not begin with the player's ship at center screen, but rather in a corner of the playfield. This renders the traditional *Asteroids* strategy of remaining in the middle of the playfield useless and requires the gamer to almost immediately pilot the ship out of the deadly, boxed-in coffin corner.

Arcaders are provided with the defensive weapon deluxe—a virtually invulnerable force field that can be thrown up at an instant's notice. As with *Asteroids,* when a bit of space geometry is hit, it divides into smaller parts which must also be eliminated. If anything, in fact, *Space Duel* is *too* simple. The force field can be held on for long periods of time, and in most cases the floating configurations make even easier targets than the space rocks of *Asteroids.* Certainly, any player who does well at **Deluxe Asteroids** will be able to engage in this *Space Duel* for looooooooooong periods of time. The majority of us, however, will hardly complain about being able to last a little longer at such an enjoyable contest.

Graphically, this game is miles beyond its inspiration. The three-dimensional, colored crystal imagery will delight **Battlezone** fans, as will the splendid, multicolored explosions.



KICKMAN

The movement through space is smooth and languid, and the firing angles are nearly perfect. This is such an outstanding update of a classic play mechanic that even those gamers who never got into the original should definitely check out its shiny, new descendant.

Mouse Trap/Exidy

"Build a better mousetrap," they say, "and the world will beat a path to your door." So Exidy discovered when the California coin-op manufacturer turned out this cute maze-chase number.

Exidy is one of the few American coin-op companies that does all its own R&D—that's Research and Developement. That means the company designs its own games like its big neighbor Atari, rather than buying U.S. rights to Japanese-developed titles. This independence, in the past, has led to some truly innovative games such as **Venture,** the first fantasy quest-oriented coin-op.

Players control mice, who begin their lab-like adventure at the center of a maze. The mice must move through the maze, eating up tiny pieces of cheese, while avoiding the labyrinth's many menaces.

After mastering the basic play mechanics, gamers can start to take advantage of the game's many unique features. For example, there are dog bones located in each of the playfield's four corners, much like the power pills in *Pac-Man.* These bones turn the mouse into a barking, ferocious dog capable of mangling even the fiercest feline. Not only that, the transformation need not occur at the precise instant the mouse eats the bone. Instead, the rodent can devour the power-bone and remain a mouse until the player feels the transformation will be most useful. At that instant, the player hits the special "dog" button on the game console, effecting a time-delayed metamorphosis.

Then there are the color-coded trap-doors. The console has a trio of buttons, red, green and blue, that correspond to similarly colored doors in the playfield maze. By pressing the red button, it is possible for the mouse to pass through the red door. Clever and sparing use of these doorways will prove to be the most significant part of your strategic repertoire.

Once the going gets tough, expect to see the hunting hawk turn up on screen. As wildlife fanciers know, hawks just *love* little mousies for dinner, and these hawks are so smart they'll pick off your wretched rodent before you can exclaim "Holy Tom & Jerry!" Your only hope is to make the smart hawk a dumb hawk. This is accomplished by traveling through the maze to its center. The hawk will immediately lose all his tracking instinct—not to mention his appetite.

Mouse Trap is a cute item that should amuse players as much with its unfamiliar elements as with its familiar ones.

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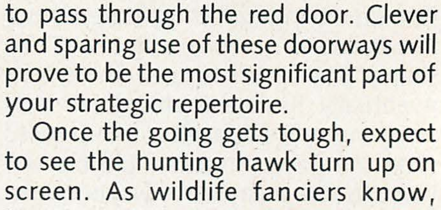


MOUSE TRAP PLAYFIELD

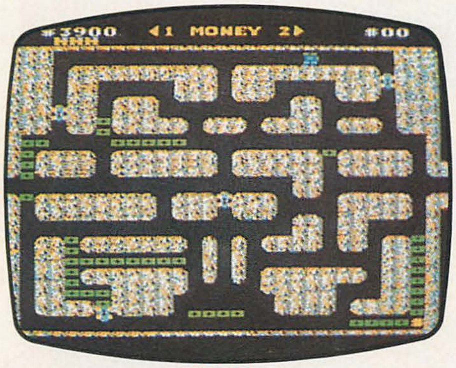
Take the Money and Run-if You Can

THIEF

Pacific Novelty

You've heard the expression, "He talks a good game"? That's exactly what this maze chase contest from Pacific Novelty does, and it uses the most advanced voice chip technology to do it.

Thief boasts the revolutionary Texas Instruments 5200 "phonetic" chip which delivers a steady patter that is occasionally so amusing gamers will literally drop their joysticks in astonishment. The sound, produced syllable by syllable rather than as entire words, is used to simulate the voice over a police radio, busily directing the on-screen police cars toward the thief in the player-controlled vehicle. Combining elements of *Pac-Man* and **Dodge 'Em,** *Thief* is a multi-maze contest with solid graphics and smooth on-screen movement, via the player-operated joystick.

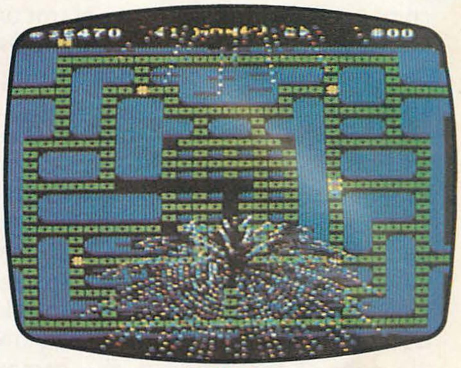


THIEF

INSERT COIN HERE

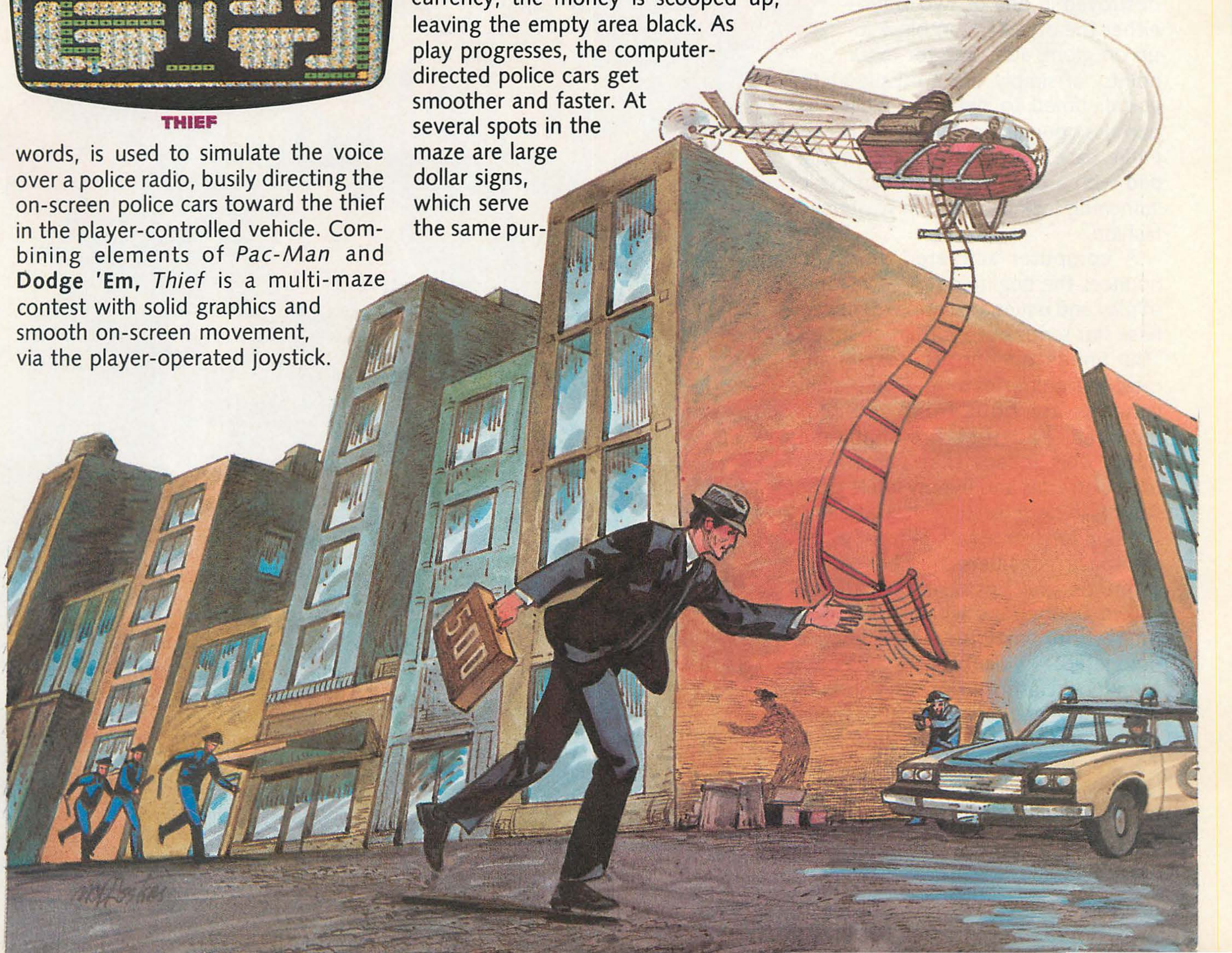
By BILL KUNKEL

As the player's car moves through the labyrinth, which is composed of currency, the money is scooped up, leaving the empty area black. As play progresses, the computer-directed police cars get smoother and faster. At several spots in the maze are large dollar signs, which serve the same purpose as the power pills in *Pac-Man*. That is they allow the thief to ram the police cars for bonus points. This element is not only derivative, it's unnecessary.



THIEF

Clearing a maze earns the gamer a shot at a brand new labyrinth and faster, better-cornering squad cars. The graphics are clean and easy to follow, the joystick action is smooth and responsive. Nonetheless, *Thief* is primarily an *audio* triumph, one of the few video contests that deserves an arcader's attention just because it *sounds* so good.



BOSCONIAN

Namco/Midway

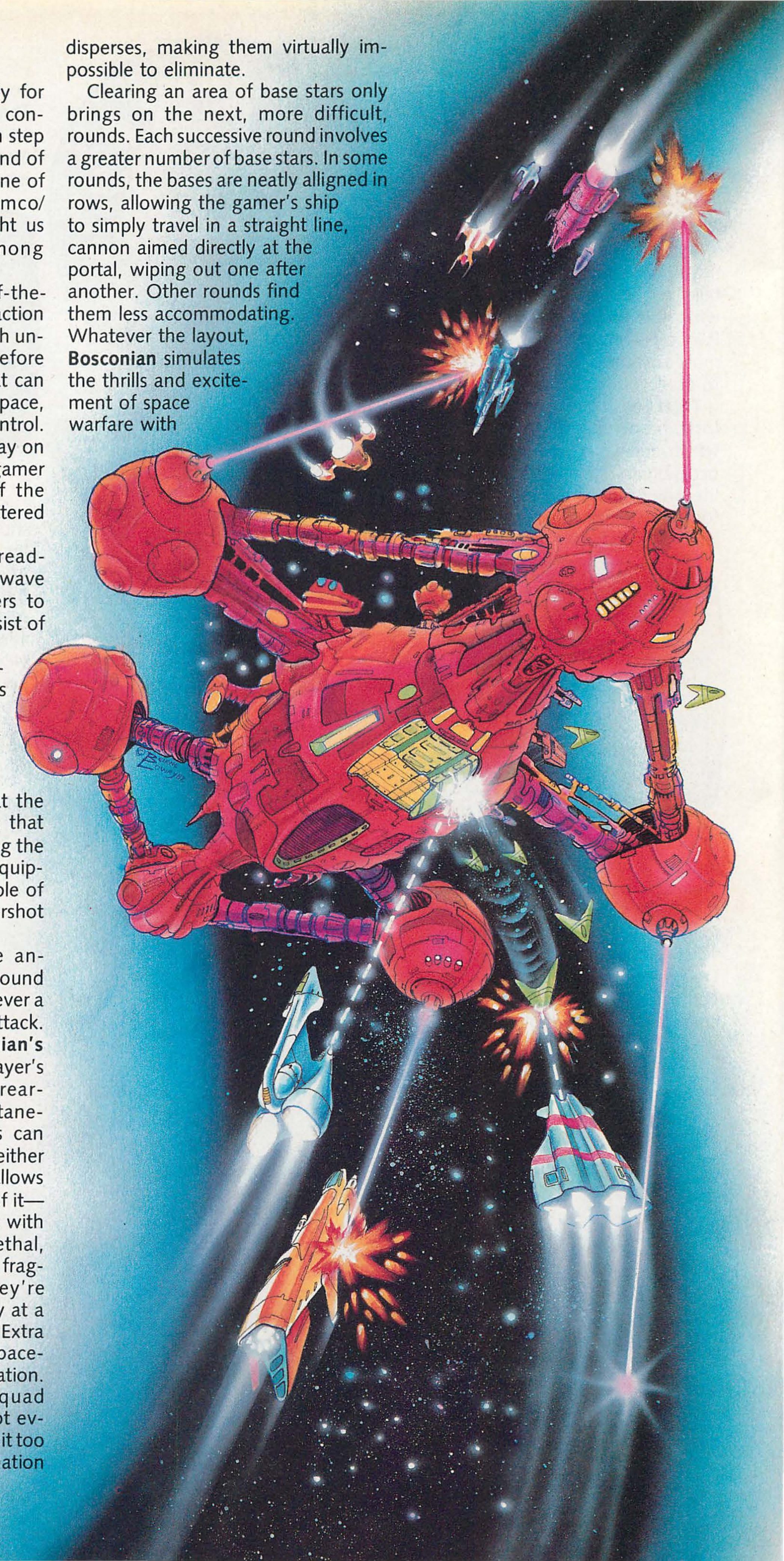
Okay, arcaders, are you ready for the most incredible space-battle contest ever devised for video? Then step up and grip the joystick for a round of **Bosconian**, the latest in a long line of coin-op triumphs from Namco/Midway (who previously brought us **Galaxian** and **Pac-Man**, among others).

Bosconian combines state-of-the-art graphics with topflight play-action to simulate war in deep space with unsurpassed authenticity never before seen. Players man a warship that can move independently through space, guided by a sturdy joystick control. Using a computer scanning display on the right of the playfield, the gamer directs his ship toward one of the numerous enemy base stars scattered through the galaxy.

Base stars are enormous dreadnaughts, capable of sending out wave after wave of protective fighters to repel an attacker. The bases consist of six massive globes, connected via spoke-like corridors to a central portal which opens and closes periodically. Base stars can be destroyed in one of two ways—either the attacker can blow it up on globe at a time for extra points, or simply fire a missile at the portal, timed to detonate while that portal is open, instantly destroying the entire base. Each portal is also equipped with a deadly cannon capable of launching rocket-bombs in scattershot fashion.

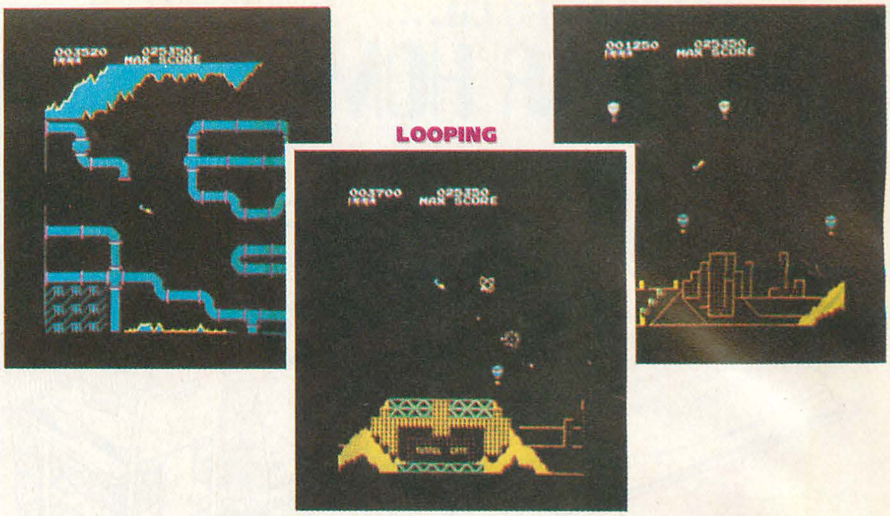
A computer-activated voice announces the beginning of each round of play and issues an alarm whenever a base star sends out a formation attack. This brings up one of **Bosconian's** most intriguing features. The player's cannons are both front-and rear-mounted, and they fire simultaneously. This means that gamers can blast obstacles and enemy while either closing in or retreating. It also allows the ship to clear a path in front of it—the space lanes here are choked with asteroids and cosmo-mines (lethal, spiked boobytraps which spray fragmentation particles when they're detonated)—while blasting away at a formation closing in on its tail. Extra points are gained when the spacegunner destroys an entire formation. To do this, pick out the squad leader—the pink ship—and shoot everything else first. If the leader is hit too early, the remainder of the formation disperses, making them virtually impossible to eliminate.

Clearing an area of base stars only brings on the next, more difficult, rounds. Each successive round involves a greater number of base stars. In some rounds, the bases are neatly alligned in rows, allowing the gamer's ship to simply travel in a straight line, cannon aimed directly at the portal, wiping out one after another. Other rounds find them less accommodating. Whatever the layout, **Bosconian** simulates the thrills and excitement of space warfare with



an absolutely invigorating realism. Ships swoop down on their targets, deftly sidestepping attacking formations and cosmo-mines, as explosions light up the heavens.

In order to give players a better chance in this far-from-simple contest, Midway has thoughtfully printed up little strategy booklets giving inside playing tips on their latest triump. To obtain a free copy of this valuable collector's item, write to: "Bosconian Scoring Tips," c/o Midway Manufacturing Co., 10750 West Grant Avenue, Franklin Park, Ill. 60131. Enclose a stamped, self-addressed envelope and tell 'em that **EG** sent ya!


LOOPING

LOOPING

Venture Line

Traditionally, coin-op airplane games have not done well. Even Atari's magnificent flight-simulator style Red Baron failed the two-bit test. The only flying machines in which arcaders really seem to take an interest are those with laser cannons mounted on the front.

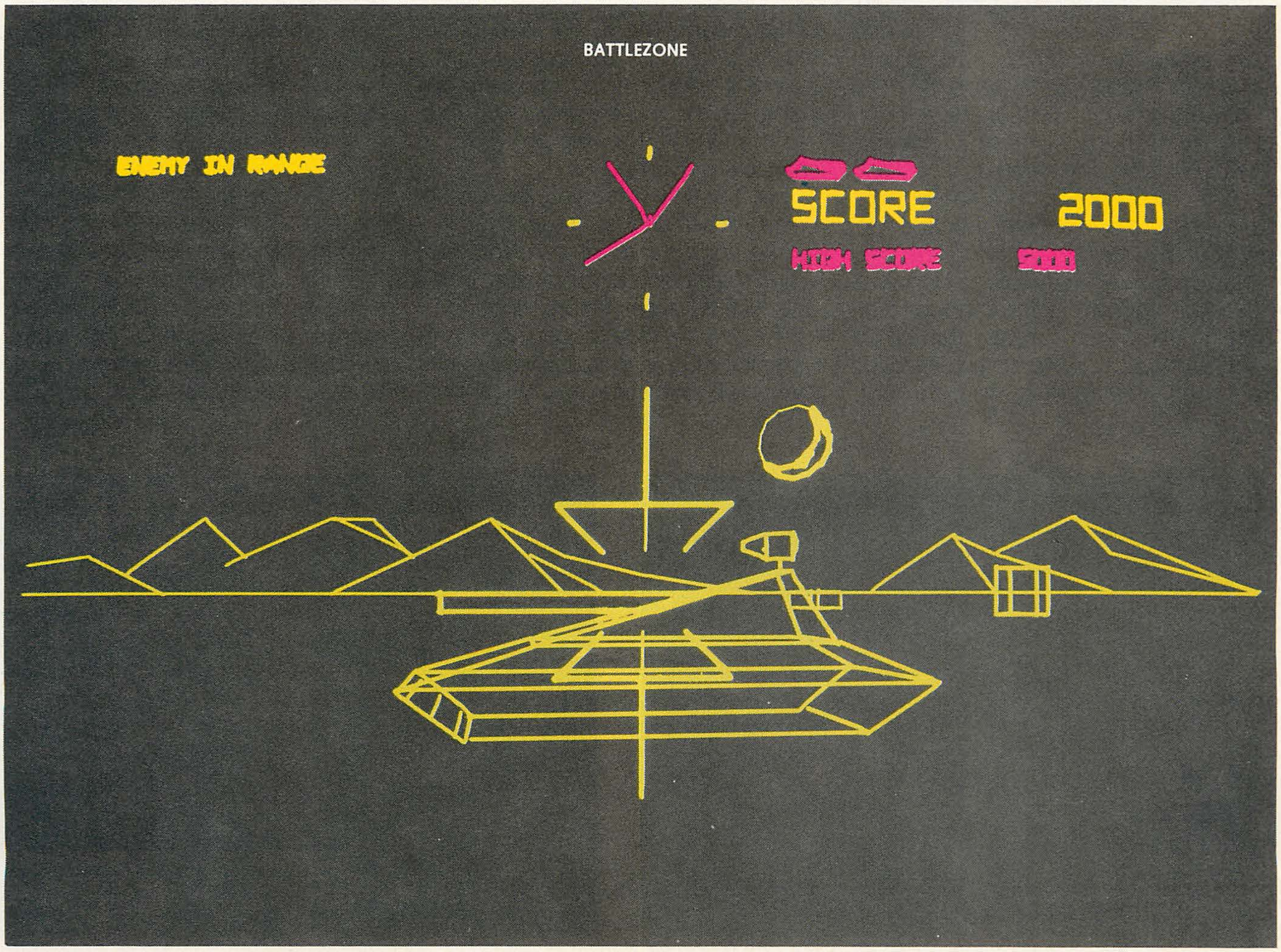
Hoping to buck this trend is an interesting new entry from Venture Line called **Looping,** which blends aerial acrobatics with a horizontally scrolling shoot-out in the sky. Clever audio and quality graphics get maximum impact out of the game's scenario.

Players begin by taking off in their machine gun-equipped aircraft and taking *on* the retinue of hot air balloons that fill the sky. Using the game's tricky steering mechanic, the human pilot must destroy both the balloons and the bridge they're protecting in order to move on to later phases, such as a maze-like network of pipes which must be navigated in **Scramble** fashion.

Looping is cute, colorful and challenging and would probably make an interesting change of pace from the usual run of science fiction and adventure games. The game's major difficulty is the steering, and several quarters will invariably go west before even skilled arcaders are able to grasp joystick firmly in hand and loop the loop at will.

Continued on page 134

BATTLEZONE



Score More on...

POPULAR HOME ARCADE GAMES

RULES & TACTICS

By Frank Tetro, Jr.

Let's Save the Universe

In **UFO**, players control a spaceship equipped with armed, ramming shield, in an area of space patrolled by an intergalactic foe capable of dispatching three types of deadly weapons. The enemy can launch random UFOs (worth one point), hunter-killers (three points) and even light-speed starships (10 points). The player must use his shield to destroy as many of these as possible before his ship is obliterated.

The shield appears as a ring of eight colored dots, one brighter than the rest. This is the cannon. Moving the ship causes the shield to rotate in a clockwise direction, permitting the cannon to be aimed. The shield can also ram UFOs and starships. But once it has destroyed an enemy weapon or ship, through either means, the shield shuts down several seconds for recharging. When it returns, it takes on an intermediate color before returning to its normal blue. During this period, the ship has a 50/50 chance of surviving a hit.

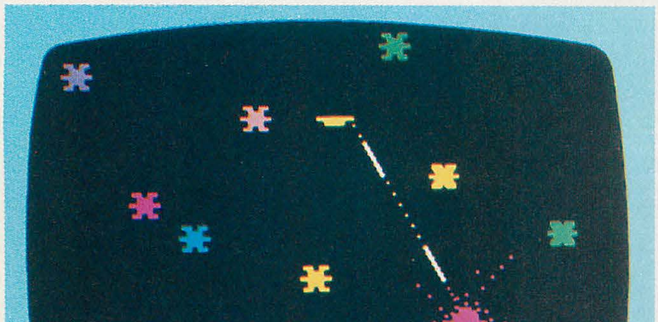
If at any time while you are playing, two random UFOs merge, they will form a single hunter-killer. As these are worth three points to the random type's one, let this happen before firing.

The best strategy for beginners is to ram the UFOs, at least until you master the tricky business of aiming the cannon. With practice, aiming becomes much easier, but you'll still probably ram more UFOs than you blast. Remember also that the cannon's range is limited to about one-quarter of the playfield, so don't waste time on UFOs that are out of range.

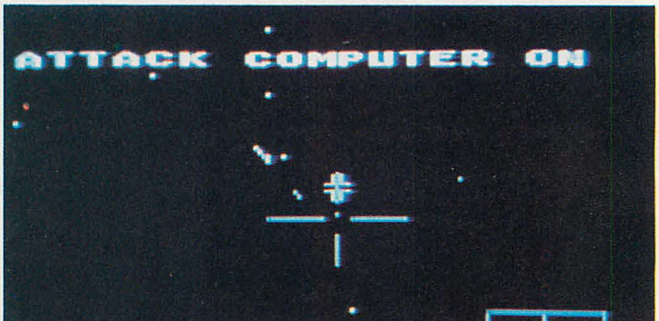
The most valuable target-object on the screen is the light-speed starship, but it is also the most deadly. It can travel through hyperspace, remember, and may turn up anywhere on the screen at any time. It also fires in bursts, so that if it has the Federation cruiser in its range, the first blast defuses the shield while the second obliterates the cruiser itself..

The starship has an achilles heel, however, in that it can only fire in the four diagonal directions,. Therefore, if the cruiser approaches it from the side, above or below, it's a sitting duck. Trou-

UFO



STAR RAIDERS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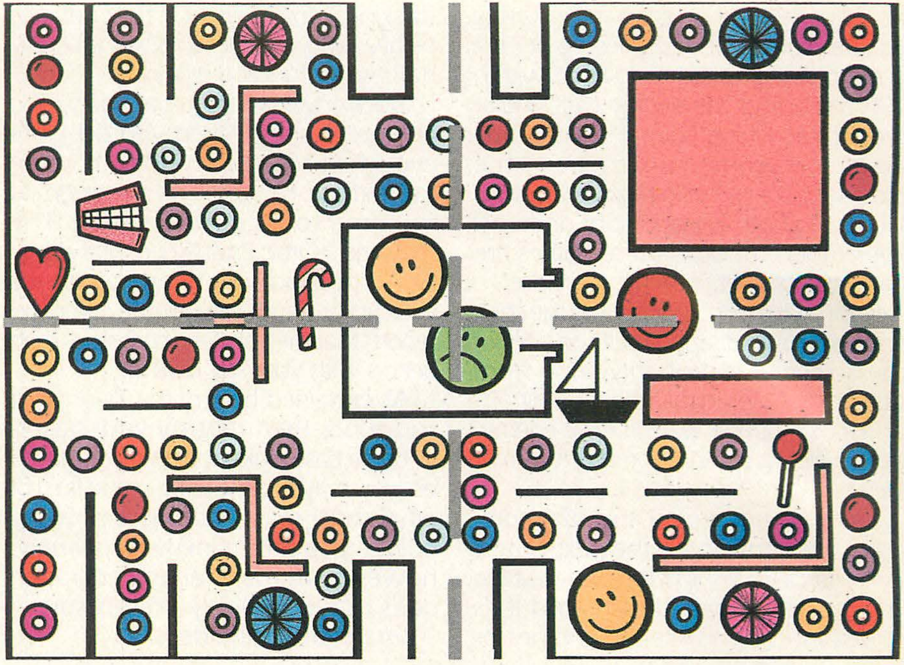
ble is, it doesn't exactly stand still and let you get astride it, so you'll have to continually mirror its movements from a safe position until you can get off your shot. For beginners, there is a simpler strategy: run for your life, hide behind UFOs—anything—just stay away from it.

Again, arcaders will probably find it easier to ram the starship than blow it up. Whichever tack you prefer, there's no avoiding the fact that you've got to get the starships for the big point totals.

Otherwise, stay toward the center of the screen. The enemy is always busy generating more UFOs off-screen, and the unwary pilot caught in the upper and lower corners of the playfield often ends up floating in space without a craft before they realize what hit them. True, the UFOs are thickest at center-screen, but at least you can see them.



JAWBREAKER

Jawbreaker/On-Line/Atari 400 & 800/16K disk

Jawbreaker is a maze-chase/gobble game patterned on the popular coin-op, **Pac Man**. Players maneuver a set of teeth through a maze, gulping down little white-ringed "wife-savers" and occasional powered jawbreakers before getting said choppers knocked out by one of the quartet of cheshire-faced "bullies."

In each of the maze's four corners are found the special, jewel-like jawbreakers. Guiding the choppers over such a morsel momentarily turns the smiling, brightly-colored bullies into frowning, blue cowards, which the player may then devour for bonus points. Wife-savers are worth 10 points, jawbreakers count for 50 while bonus objects (lollipops, candy hearts, toy sailboats) range in value from 100 to 500 points.

Eating a bully is profitable business, too. The first tough guy you gulp down during a given "blue period" is worth 200 pts., the second, 400 and so on, up to 800 points for all four. After getting eaten, however, the bully's ghost flies back to the "corral" at the center of the playfield maze, where he will re-emerge, good as new.

There are two strategic approaches to this game, one for a player shooting for a high score, another for a gamer who wants to clear as many walls as possible. (Clearing three sets of wife-savers is good for a bonus pair of choppers.)

When going for points, the best bet is to eat as many savers as possible **without** chowing down on that quadrant's jawbreaker. Try to eat the mystery objects when possible—take no senseless risks for a 100 point lollipop, however. Only down the jawbreaker when there are several bullies on your tail, at which point you'll stand a good chance of catching all four of them.

There is also a special tunnel which acts as a scrolling short-cut from the bottom of the screen to the top, or vice versa. When moving through the tunnel, the teeth travel at normal speed, but the bullies are reduced to half their normal movement rate. This makes a very convenient escape hatch, therefore, in tight situations.

If you opt for the second approach—going for as many walls as possible, you must mentally divide the maze into four sections, right through the middle, each containing a colored jawbreaker. Go to work clearing one section at a time. When bothered by bullies, just gulp the jawbreaker and they'll run away. **Do not attempt to chase them;** simply continue on your way until you've cleared that sector of wife-savers, then move on to the next one.

With each wall cleared, the bullies get quicker until they can eventually move faster than the teeth. At this point, clever timing in devouring jawbreakers and expert use of the scrolling tunnel are required ingredients.

Star Raiders/Atari 400 & 800/8K

Star Raiders is a computer adventure which puts the player in the cockpit of a mighty intergalactic starship. As part of the Atarian Fleet you must rid the galaxy of enemy fighters, cruisers and deadly basestars.

As the game begins, hit "S" to activate your shields lest a stray meteoroid demolish you before you even start, and "C" to start up the attack computer, which is invaluable in targeting. Next push "G" to summon up the Galactic Chart. This grid-display will indicate the positions of the friendly starbases, which must be protected at all costs, in relation to enemy squadrons.

At the "novice," or learning, level, the trip into warp space is navigated by the computer. At other levels, a steady hand on the joystick is required to stay on target as the tremendous strain of warping can cause the ship to waffle slightly, requiring manual readjustment. Remember that pushing the joystick left moves you right and vice-versa; everything in hyperspace is backwards. This will take some practice.

Once you've reached the desired sector, one of several things will happen. If there are no Zylons in the area (they can change location quickly), all will be quiet. If the enemy's around, warning claxons sound an alert, and the attack computer will pick up the nearest target and focus in on it, giving a visual aid as to its location in the sighting device in the lower right corner of the screen. The computer also feeds other information that allows you to line up the enemy along the vertical and horizontal coordinates with the joystick.

Once within a zone, you can hit one of the numbered keys to apply impulse engine power. Sectors are rather large, and even Zylons in the same sector may be outside your ship's range. Once you've activated the engines—6 or 7 is a good cruising speed—move to within 100 centons of the enemy craft you're seeking, at which point it will become visible on screen. When it's in the crosshairs, fire twice, in rapid succession, launching both left and right photons. Remember, though, these babies fire back, so don't let them get too close.

If you have trouble centering the ship, or if it seems to disappear off the sides of the screen, it is probably firing from behind you. When this happens, hit "T" and the computer will track the enemy, automatically shifting from front to rear views.

Once you destroy a ship, the computer will home in on the next closest Zylon. But if your ship is hit at any but the "novice" level, it may be damaged. If it's something serious like the engines or tracking computer, or if the fuel dips below 1500, it's time to dock at a friendly starbase for fuel and repairs.

Track down a base just as you would an enemy ship. When you get close enough to see all six window ports on the starbase, hit "zero" on the keyboard to come to a complete stop. The message "Orbit Established: Stand by" will appear on screen, and all will be well. Sit back and wait unitl the computer reports that the transfer is complete, then get on with your star raiding.

As explained before, the Zylons first surround, then destroy your bases. When a base looks hopelessly outgunned, you may choose to fly in and finish it off yourself so as not to lose as many points. Use this maneuver sparingly, however, as the Atarian Federation does not look kindly on this sort of interstellar genocide.

SCRAMBLE

SCRAMBLE
STERN

Scramble/Stern/Coin-op

Scramble is a space action game in which arcaders must shoot their way through five Scramble Defense Systems to the base station which must also be destroyed. After that, the entire game begins again at a higher difficulty level.

The five defense systems, each requiring a separate strategy, become progressively more challenging. Because of the complexity of this game, and the limited space available, we'll concentrate on the first and fifth systems.

In the first assault, you fly over hills and valleys using bombs and lasers to destroy as many objects as possible. The first target is the fuel tank, which is not only worth 100 points, but also adds to **your** supply of energy. Remember, if you run out of fuel, you crash. The second group of targets, the mystery towers, are worth anywhere from 100 to 300 points, and are relatively easy to destroy. The next objectives, however, are not such sitting ducks; they're rockets, which are launched at your ship if you don't rub them out quickly enough. The most desirable approach is to let them leave the ground, then blow them up before they can get near you—as flying missiles are worth more than twice as much as rockets sitting on the ground.

As mentioned, your ship can either fire lasers from the bow or drop bombs. The best strategy at this level is to stay close to the ground, using the ship's laser to knock off targets. And always go for the fuel tanks, to insure your own supply.

Aside from controlling vertical movement, this coin-op's joystick also has horizontal control. Movement to the right speeds up the ship; movement to the left slows it down.

Mastering these motion controls comes in very handy, especially during the fifth scenario, when you must guide your craft through a maze-like city of walls with fuel tanks blocking the way. Using the laser, eliminating the fuel tanks should be fairly easy. Navigating through the city's labyrinthine turns isn't quite so simple.

Bear in mind that your ship, like a shark, can **never** stop moving. Therefore, since it seems impossible to move vertically without going forward, most players assume they can't go from the top of the playfield straight down to the bottom in order to complete the maze.

Not so! There **is** a way to **temporarily** make strictly vertical moves. When this phase begins, push the stick all the way to the right, taking her to maximum speed. Then, when you reach a point at which a vertical move is needed to reach the next passage, simply push the joystick diagonally to the lower left to drop, or the upper left to rise straight up. This will simultaneously slow the ship to minimum speed while affording upward and downward control. Then, once you've reached the next passage, return to full speed to get ready for the next vertical route.

Once the fifth level has been conquered, you will next fly over a city and attempt to detroy the base station. This is fairly straight-forward stuff. After that, you can try the whole thing again. However, this time the Scramble Warriors are slightly more agile, so good luck, and keep on trekkin'!

Note: Because of operator-controlled options on many coin-op machines, all do not work on the same difficulty levels. Keep this in mind if you find a game much more difficult than described. It just means that you live in an area with some real hot-shot arcaders who have forced the arcade operator to re-set his machine up a notch or two (coin-ops often feature several difficulty levels) in order to keep from being skinned alive. Maybe you should consider another neighborhood.

Blast Off for Outer Space Gaming!

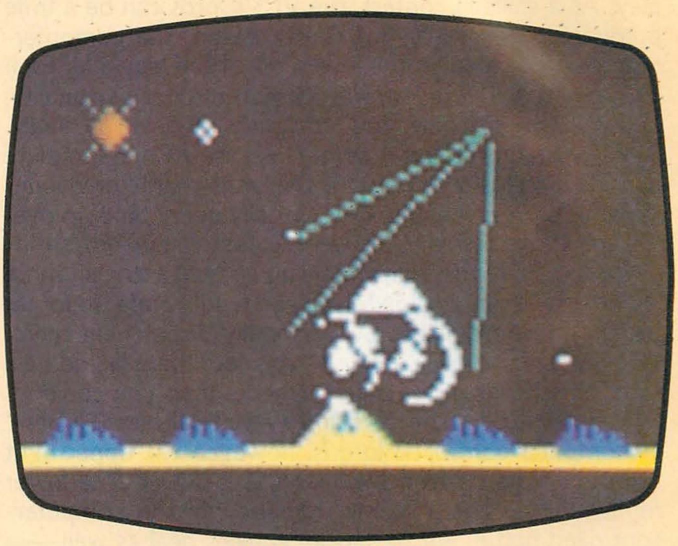
By Frank Tetro Jr.

On the surface **Warlords** may appear to the gamer to be a minor variation on the Atari classic **Breakout.** Not so. The paddle, bouncing ball and bricks are going to be familiar to any electronic gamer, but the strategic approach here is considerably altered by the game's more dominant, and totally unique play elements.

Perhaps the most significant difference is the "catch and catapult" action of the player's shield. By depressing the paddle controller's action button, the shield will trap and hold the flying rock that endangers his castle, rather than merely deflecting it. It's also going to take even skilled *Breakout artistes* a while to get used to the shield's expanded mobility. As your monarch's defender, players can maneuver their shield/catapult freely in front of the castle's horizontal and vertical planes — quite a change from the normal back-and-forth action of most ball and paddle contests. Also, it is crucial to remember that destroying bricks doesn't score a gamer any points in *Warlords.* Even being the next-to-last player on the board merits no numerical consideration from the game's do-or-die play mechanic.

The catch/throw feature is used to best advantage early on by targeting solely on those castles directly vertical or horizontal to the player's position. Diagonal catapulting will be far more effective later in the round, when more bricks have been cleared from the playfield. After luring your intended target out of position, quickly swing your now-loaded catapult to either of its playfield boundaries and aim straight across the screen at the row of bricks at the playfield limits.

As we mentioned, should the combatants be reduced to your castle and a diagonal one late in the game, it is possible to put some real "english" on your shots — provided there aren't too many bricks from already-eliminated castles clogging up the works. By launching your rock on a directly horizontal line, then, in the best tradition of the



MISSILE COMMAND

Analyzing New Games

Each game demands its own strategy and tactics but here are some general hints for getting into a new program:

First, read the rules carefully. Some players like to "boot and bash", but five minutes with the rule-book often discloses score-building nuances.

It's also not a bad idea to watch someone else play a couple of rounds of play. It's a lot easier to observe an unfamiliar game when you don't also have to manipulate the joystick. Sometimes you can learn as much from studying a bad player as you can from a good one.

Next, analyze the game objective and point values. If you don't know whether clearing screens or tallying points is the goal, it's mighty hard to concoct a good plan.

In developing your strategy, it's always best to begin conservatively. Protect your on-screen character even if it means sacrificing points until you've learned the game well enough to let out all the stops.

Finally, keep practicing. No good game can be mastered immediately.

videogame guided missile, arcing your paddle controller either up or down — as desired — it will become possible to "bend" the angle of your trajectory and catch your opposition unguarded.

Again, destroying bricks means nothing unless the castle's king is also obliterated. And whether you or your opponent's do the dirty work similarly has no bearing on the game's point totals. A cagey player may prefer to try the waiting game, simply defending his castle when neccessary while the other feudal barons knock off the another.

Warlords is a game that is infinitely improved by human play. As a solitaire contest, the VCS's lords can be a trifle predictable. Especially, for some reason, the computer-operated individual in the lower left of the playfield. Each VCS-controlled kingdom has its own distinct personality, and this guy's family was obviously involved in incestuous marriage at some point, because he's a complete idiot. Left to his own devices, this unfit character will destroy his own castle and king virtually every time. In over fifty playtest sessions, he was the first eliminated an incredible 80% of the time and he never won a single round.

Perhaps he simply dislikes war and would prefer to forget his royal responsibilities by personally dispatching them. Whatever his motives, just give this fool the ball and he'll take himself out of the action quicker than you could.

As dull-witted as the lower left — we'll call him "Sir Dim" — computer-controlled lord is, however, the upper right kingdom, when driven by the VCS, is clever. The lower right hand kingdom seems the shrewdest in computer-controlled battle, but he has an achilles heal as well — a tendency toward almost foolhardy offensives. Lower right — Sir Macho, perhaps? — is also especially vulnerable to the previously-described "guided missile" launch from the upper left—which is generally controlled by the human player.

All right, then, lords and ladies, let's see those rocks flying and those castles breached! Excelsior!

Spacechase/Games by Apollo/Atari VCS

In Spacechase, an earth ship at the base of the playfield is suddenly attacked by a fleet of enemy raiders armed with neutron missiles and deadly heat-seeking projectiles. The invaders warp mysteriously into Earth air space from the eather.

The joystick controller is used to maneuver up, down and to either side with the action button acting as missile launcher. Players begin with three lives but accrue bonus ships for every 10,000 points scored.

Beginning game 1, a quartet of enemy ships appears at the top of the playfield on two horizontal levels. They move in independent, random patterns.

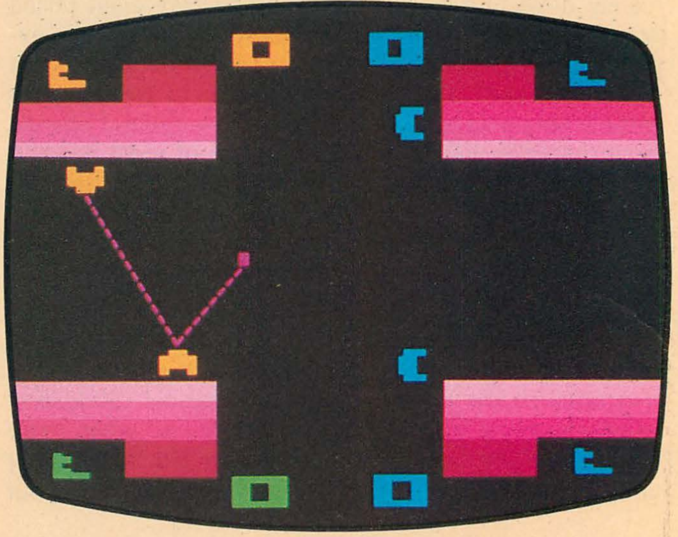
terns. The player's ship is limited to the lower third of the playfield.

When the alien craft first materialize, always eliminate the lowest first, as they have a better chance of hitting you, especially when they launch a heat-seeker. Although points can be scored by obliterating incoming missiles, it is wisest to destroy the aliens quickly since the heat-seekers are launched on a basis of probabilities, approximately one for every 250 bombs dropped until the first 10,000 points are tallied. Therefore, the fewer bombs the aliens drop, the fewer heat-seekers you should have to deal with.

Heat-seeking missiles can be distinguished in two ways. First, they blink in and out of sight as they speed toward your ship, and they also emit a loud "whooping" sound. Similarly, there are two ways of dealing with these devilish weapons. One is to simply run. If you are near the center of the playfield, you may be able to reach the side of the screen before the missile can hit you. Otherwise, wait until it homes in on your ship and, as it poises for an instant directly above you, destroy it.

Many gamers will prefer to simply hold down the action button throughout play, creating an automatic fire effect. Others will fire frequently, but will occasionally pause to get their timing together.

At 10,000 points, the screen is abruptly filled with five attackers, the fifth occupying a horizontal plane below the other four ships. At 40,000 points, a sixth enemy ship joins the fray.



WARLORDS

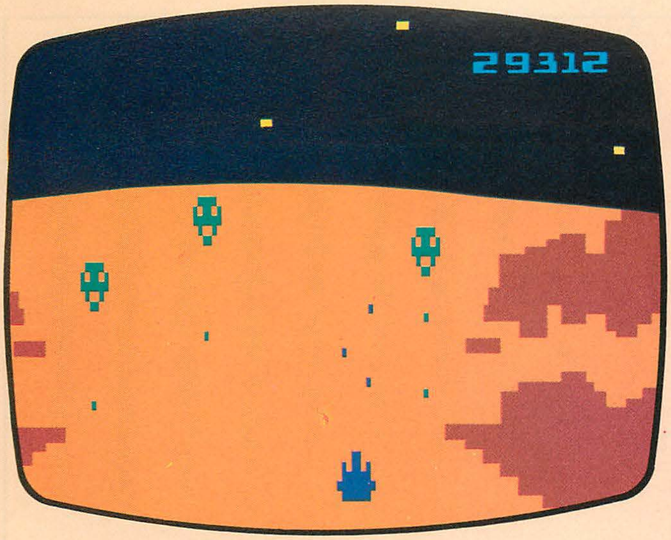
Each new type of attack — the red cannons, green ovals and black crosses — is swifter and deadlier than the one it follows, with a proportionally greater number of heat-seeking missiles. At these advanced levels especially, it is imperative to eliminate the aliens from the bottom up. Also, avoid the temptation to raise your ship as far up the screen as it will go — these only gives you less time to react to a heat-seeker.

Space Battle/Mattel/Intellivision

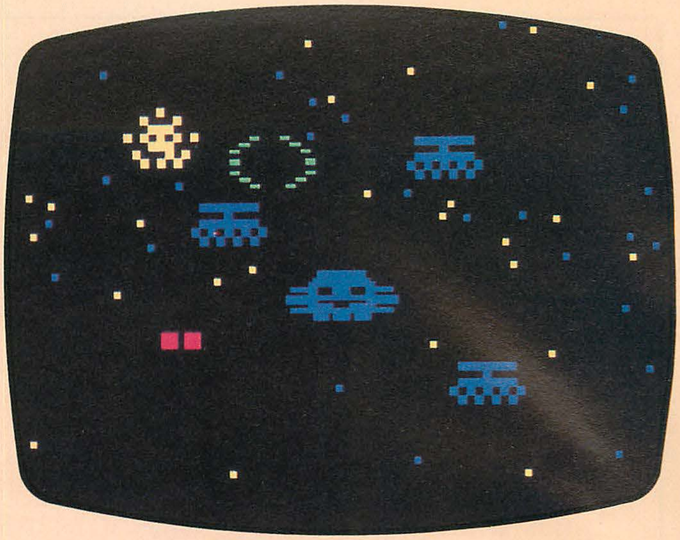
In this game, your mothership is under attack by five alien squadrons (though the number will vary game to game). These groups move toward your base ship at different speeds, but once they reach the perimeter of the mothership's shield ring, a claxxon alert will sound, warning that only seconds remain to save the game.

The player has three squadrons at his command, which he can dispatch toward any of the alien fleets he chooses. As the game begins, see which of the invading formations is closest and send a squadron to meet it. You may also want to launch a second group of fighters, but work this so that both contingents will not meet the enemy at the same time. When this happens, while you're battling one group of aliens, the computer takes on the other. Unfortunately, the old computer isn't much of a battle-hardened veteran. Your electronic assistant will be only too happy to sacrifice ship after ship in a war of attrition that you can't win. Always give yourself leeway between battles, so that you can oversee them personally.

When in combat with the enemy, keep the cursor moving, for any hit taken by an alien laser will lose you one of



SPACECHASE



SPACE BATTLE

the squadron's three ships. Try to fire at the Cylon-like alien space crafts when they are grouped together, since fragments from one exploding spaceship will often take out several others in a wonderful sequence of pyrotechnics.

Always leave at least one squadron back at the mothership. This way, should an enemy squadron get by your protective shield and endanger the base, you can dispatch the last squadron and intercept the attackers within seconds.

When firing at the enemy, hold down the firing button and simply move the cursor.You have an unlimited supply of laser bolts in any case, and this gives you a much better shot at hitting something.

Some players may find that they are actually able to engage in the game's dogfight sequences more capably at the higher — and theoretically more difficult — speeds. The slower moving aliens in the early versions are complimented by a just-as-slow-moving targeting cursor. Gamers who prefer to zip around the playfield should do much better at the slam-bang levels.

Another advantage to the faster speeds is the greater likelihood that alien ships will converge more frequently. This, of course, also makes it easier to take out several aliens with a single burst. And saving ammunition — not to mention time — is something a gamer can always appreciate.

With these hints and a little patience, you should be able to save the universe.

Missile Command/Atari/Atari 400 & 800

In order to defend the six cities under your protection, you must efficiently control a missile base armed with 30 ABMs (Anti-Ballistic Missiles). With each wave of incoming missiles, the speed of the airborne attack increases. After the successful completion of every pair of waves, the point value of each enemy missile, plane and satellite increases. Reach a certain level (2X and beyond), and intelligent or "smart" missiles join in the fun. At each 10,000-point-scoring interval, you are awarded a bonus city.

A scattering of incoming bombs appears at the top of the screen. They streak down the playfield, along with either a plane or satellite. Always eliminate the satellite first. If you wait too long it drops a batch of its own bombs, adding to the havoc.

Learn to lead the enemy missiles with the cursor rather than placing it atop your target. A missile takes a few seconds to reach its goal and detonate. Therefore, allow for the distance you think the missile will travel — and plot your ABM's destination with that in mind. The faster the wave, the more you should lead your target. Keep in mind that your ABM explodes in a wide circular shape that will destroy any missile making contact with it for about three seconds, so always attempt to take out more than one missile whenever possible. Unlike other space target games in which players are granted unlimited firepower, make shots count here. Bonus points are earned for all leftover ABMs.

If you don't strike a missile in time, it either lands — probably on a city — or breaks up into several, equally deadly rockets. Hitting them while they are still high in the sky is always preferable. If a bomb does split up, fire at it immediately, in hopes of obliterating several of the just-germinating bombs.

When and if you reach the 2X points plateau—where missiles and such have twice their original value — you will be assaulted by smart bombs, resembling inverted pyramids. These are considerably more difficult to lead and must be hit dead on, or they will simply deflect your explosion.

At the higher-level waves,it's wise to set up a protective "umbrella" of explosions over your remaining cities by beginning at the left and dotting the sky over your population centers. The sequential detonations should stave off most enemy assaults. This futuristic Maginot Line should prove impervious to anything but the smart missiles.

When things start to look dark and you realize you're about to be overwhelmed, allow the outermost cities to be destroyed and protect just the pair to the left and right of your command center. This territory will be far easier to defend than those far away, outlying cities. Don't bother picking off missiles destined to land harmlessly. Just worry about the ones heading for your two final cities and your command center.

Should the enemy destroy your last city, while you still have ammo remaining, don't give up the planet! Shoot for the next 10,000-point milestone so one of the lost cities is restored. Just hope the computer doesn't recreate one too far from the center of the playfield.

Good luck, and remember that the fate of the world lies in your hands, oh master of the misguided missiles. ⊖

The Three Major Classes of Programmable Videogames

Programmable videogame systems can be divided into three general categories according to their capabilities.

Standard programmable systems (Atari VCS and Odyssey^2) are machines which feature low-resolution graphics, a small amount ot screen-RAM and less than 4K bytes of resident memory.

Senior programmable systems (Intellivision, Astrocade, Arcadia 2001, Vectrex) boast high resolution graphics, more screen-RAM and between 4K and 16K of resident memory.

"Third wave" programmable systems (ColecoVision and The Atari 5200) flaunt even better graphics, more than 16K of resident memory and more than 5K bytes of screen-RAM.

Crunch, Quest and Crash Like an Expert!

By Frank Tetro Jr.

K.C. Munchkin/Odyssey/Odyssey^2

This gobble game, obviously inspired by Namco's **Pac-Man,** will prove a somewhat bewildering challenge for those arcaders who have mastered "all the patterns" of the coin-op version. **K.C. Munchkin** is a maze chase contest, but its play mechanic—and programmable nature—make it an almost completely different game in terms of strategy. Players maneuver their munchkin through any of a nearly infinite number of mazes in pursuit of 12 moving dots while a voracious trio of "munchers" attempts to chew up the player's character.

Similar to *Pac-Man* are the "power dots" which let the munchkin consume the munchers, and a scrolling escape tunnel through which the munchers travel at only half-speed.

The differences, however, are as significant as the similarities. Twelve dots may not seem like very many, but these aren't fixed objects, they move around. The fewer dots remaining on screen, the faster they move, until the last little morsel is racing around the playfield at breakneck speed. Odyssey has also added a healthy dose of programming flexibility to its maze chase by offering gamers the choice of 10 pre-designed labyrinths and the ability to construct their own, piece by piece!

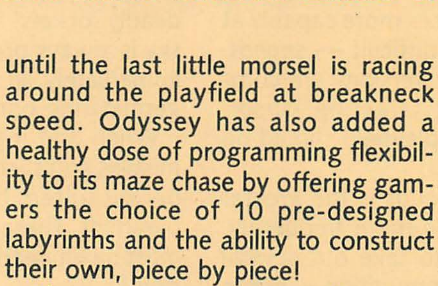
There are several types of mazes, but the major ones are visible and invisible. Movement in the standard maze is obvious, while in the invisible labyrinth, walls can't be seen unless a player's munchkin bumps into one (or stops, by releasing the joystick).

Consume as many of the normal "munchies" as possible before scarfing up the power pill. Wait for at least one muncher to get nearby before gulping it, then spend the following seconds hunting down his companions.

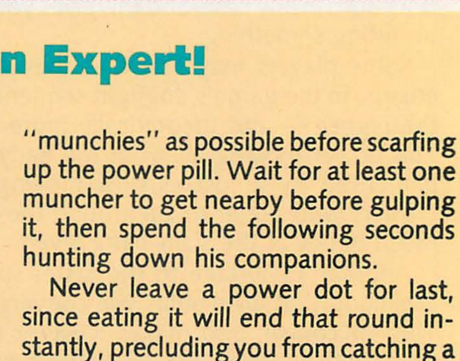
Never leave a power dot for last, since eating it will end that round instantly, precluding you from catching a few vulnerable munchers. When chasing the final munchies, try to get them cornered, trapped in a cul-de-sac where the only exit is right past your munchkin. Most times, the little yummies will dance right into your hungry surrogate's mouth.

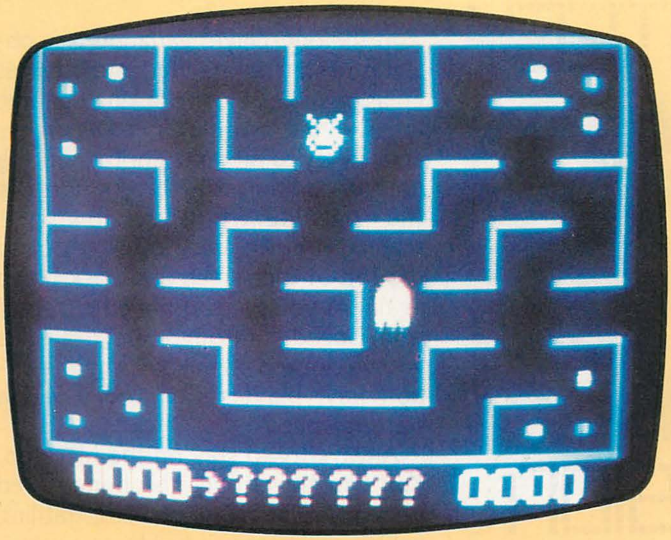
Use the escape tunnel whenever

K.C. MUNCHKIN

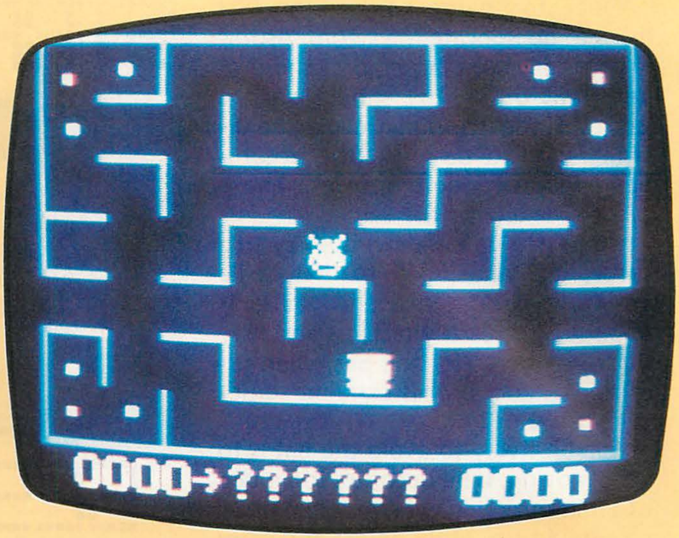


K.C. MUNCHKIN





K.C. MUNCHKIN



K.C. MUNCHKIN

necessary—remember, the munchers can only negotiate this scrolling passageway at half their normal speed while your munchkin is not similarly encumbered. When a muncher is hot on your trail, a quick trip through the tunnel will provide much-needed breathing room.

Stay out of the corners whenever possible. The munchers here are not exactly flush with bravado and would much prefer to be joined by another fuzzy comrade as a prelude to hemming in and devouring your munchkin. In fact, the munchkins clearly lack the killer instinct and will occasionally astound you by chasing you doggedly through half the maze before simply turning and heading off in another direction.

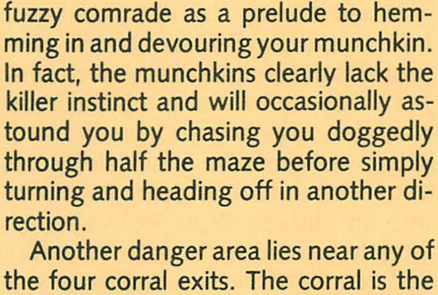
Another danger area lies near any of the four corral exits. The corral is the box at center screen from which the munchers emerge. Unlike other maze-chase games, however, these fellas don't always leave from the same portion of the pen. The corral acts like a weird, revolving door, opening at the North end for a few seconds before sealing that and opening the East, then South, then West walls. This rotating exit makes for some truly hairy play, with gamers constantly forced to keep aware of which end is up, so to speak.

Players seeking a real challenge should try games 3 and 7 (the invisible version of 3). Here, each quarter of the screen is blocked off from the other's by the corral walls. This makes it seem impossible to pass from one sector to the next. The secret, of course, is the munchers' pen. Gamers must have their munchkins enter the corral. The munchkin may balk—they don't exactly thrill to the thought of actually going inside one of those things but be firm. Once inside, simply wait for the wall to the desired sector to open up.

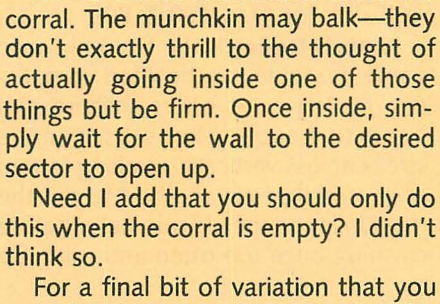
Need I add that you should only do this when the corral is empty? I didn't think so.

For a final bit of variation that you may find interesting, try entering the programming mode and erasing *all* the walls, except for the central corral, which is always on screen. This will allow both the munchkin and munchers—and munchies!—to move with total freedom, without confining maze walls in the way. In this play mode, the game will resemble the coin-op Piranha. But a word of warning, in this mode it is particularly dangerous to get trapped in a corner as the munchers will come at you from all directions. Use the scrolling tunnel as often as you can.

K.C. MUNCHKIN



K.C. MUNCHKIN



And remember, unlike other games where the player gets three turns, in *K.C. Munchkin*, you've got but one life to live. Live it as a munchkin.

Adventure/Atari/Atari VCS

As the gallant knight who must return the enchanted chalice to the gold castle, you will encounter dragons, bats, bridges, keys and other items that will either help or hinder you. (And if you're *very* good, you may even find the secret message, although it has no bearing on the game.)

Adventure has three difficulty levels. Level 1 is a small kingdom, consisting of two castles, two dragons and a labyrinth. This game will always play the same. Level 2 is similar, except that there are three castles and a pesky black bat which will rob you of hard-gained prizes, leaving you either empty-handed, or perhaps with another item in trade (No one in *Adventure*, player or characters, can carry more than one item at a time.)

Level 3 with its random design, is by far the most challenging. It is, in fact, so random that players will occasionally be in the midst of a great game only to suddenly realize that the reason they can't locate, say, the gold key, is because it just randomly happened to get put inside the gold castle—and you think leaving your car keys locked inside the auto is bad! All that can be done at such a time is to take a deep breath and a tug at the old reset toggle.

Once the game begins, the first thing to do is locate the sword. As this is your only weapon against the dragons, any other prize should wait. In games 1 and 2, simply follow the instructions laid down in the accompanying instruction booklet. These games are always the same.

Once you've discovered a key to a castle, go immediately to that castle and unlock it. Once the castle is opened, the key is worthless and may be used as bait for the bat when it's in a frisky mood or is carrying something of value.

The best way to avoid the bat is to keep moving. If he becomes too much of a nuisance, however, pick him up as you would any other object and carry him into the gold castle and release him. Generally, he won't be able to find his way out.

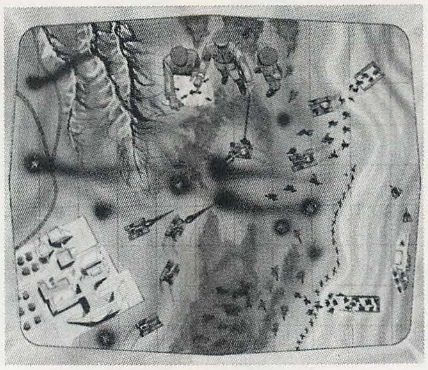
After locating the sword, slay every dragon in that game variation. If a dragon swallows you, any other dragon you may have killed is reincarnated with you.

The bridge which you'll find in the labyrinth can be a very handy item. Use it whenever needed to cross walls in the maze or catacombs.

If you should slay a dragon and his carcass blocks your path, bring several other items into the same room. When the number of items reaches three, things will begin blinking and you will be able to pass right through the dragon. This can be done because of the VCS's low screen RAM. Too many objects on screen simultaneously overload its graphic abilities.

Another item available for your use in this magic land is the magnet. This will allow you to pull objects out of the walls, where the bat generally leaves them. But always keep your sword nearby, unless you know all dragons are dead. If you spot a dragon, exit the room immediately and get that dragon-sticker! Also keep in mind that while your on-screen cursor can't travel through walls, the dragons can.

STRATEGY SESSION



The chalice will always be found in one of the three castles, so be sure to unlock them all as soon as possible. Though there is no time limit in *Adventure*—or even a clock, for that matter—the quicker a quest is resolved, the less danger will be encountered. Once you've snared that precious grail, head back to your point of origin. Don't forget about Batty, who just loves to pluck the prize from an adventurer mere inches from home.

Match Racer/Gebelli Software/
16K disk for Atari 400 & 800

Match Racer is the first road-race game available for the Atari computers. Moreover, it offers solitaire and head-to-head options as gamers streak across vertically-scrolling terrain of several types in an effort to put the most miles on the old odometer before crashing once too often and using up your last player "life".

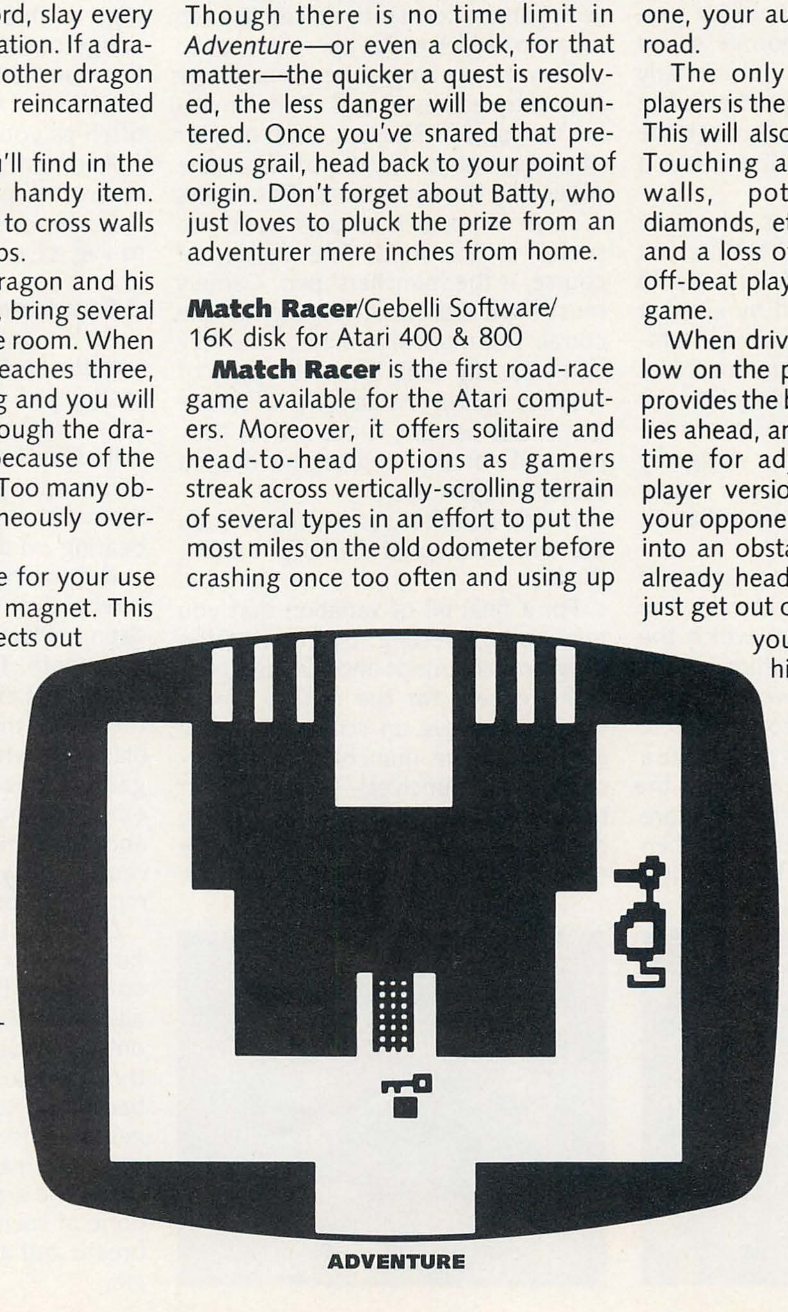
In the one-player variation, the object is to stay on the road and travel as far as possible before cracking up three times. In the two-player mode, drivers actively try to ram one another off the road in addition to making tracks. As the roadside whirls by down the screen, you can steer left, right or to the top of the screen and back down again. As you go, your speed increases from Speed 1 through Speed 4 once you've clocked 40 miles. Using the option key, players can also select a starting speed.

Always try to stay on the blacktop. You can travel over the bumpy, red brick road, but your shaking, rattling vehicle will be much harder to control. You'll also be allowed to pass over the grey oil slicks. If, however, you are in the process of turning when you hit one, your auto will skid right off the road.

The only other obstacle facing players is the puddle before the bridge. This will also cause a skid if turning. Touching anything else—bridges, walls, potholes, pylon gates, diamonds, etc.—will result in a crash and a loss of one life, admittedly, an off-beat play concept for a car racing game.

When driving, always try to stay as low on the playfield as possible. This provides the best possible view of what lies ahead, and will give the maximum time for adjustments. In the two-player version, ram your jalopy into your opponent's in order to knock him into an obstacle. If he looks like he's already headed for a crash, however, just get out of the way and make sure you don't get tangled up in his wreck. Again, stay low on the screen, behind your opponent, allowing him less reaction time. Just remember to steer around him should he crack up.

Okay, then, ladies and gents, grab your crash helmets and rev'er up—but beware of Dead Man's Diamond!



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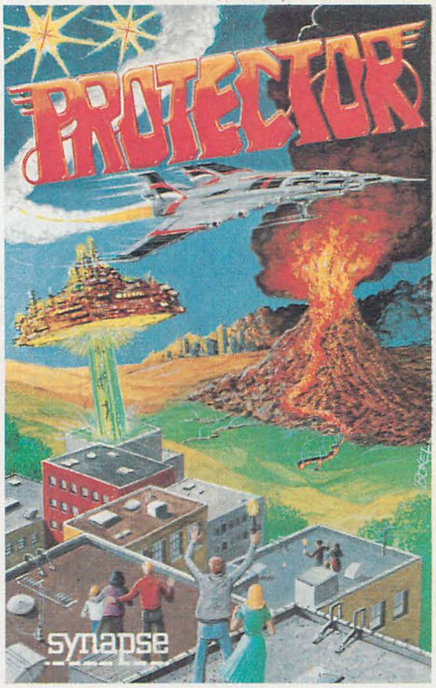
Continued from page 61

Unlike other maze-shoot-outs, this one places a premium on causing the targets to destroy themselves. There is a bonus of 10 points for each droid that runs into a barrier or another robot, and causing one foe to shoot another counts for 50 points. Bonuses are also awarded if the player leaves a sector while the bar is yellow (300 points) or green (1,000 points). An ordinary kill earns 100 points per droid in sectors 1-3 and 200 points in sectors 4-7. The program prints a complete scoring recap after the completion of each sector.

Constant motion is the key. Except in the first sector, where the droids are unarmed, the robots will make short work of any stationary target. Don't wait to see if the previous shot struck home before lining up the next one. That wastes precious seconds, and you've got a little less than two minutes to finish a sector.

It is also important to resist the temptation of unobstructed sight-lines offered by the edges of the sector. Remember, the droids are materializing there, and if one pops into existence right on top of the space commander, that's it.



PROTECTOR

K-razy Shoot-Out is the first of a projected series of ROM cartridges from K-Byte. If follow-up titles maintain the same high standards as this initial release, it's great news for Atari computer owners. *K-razy Shoot-Out* is, quite simply, the best game of its type available for any system.
(Arnie Katz)

Captivity/Beyond Software
Atari 400 & 800/24 K tape

This first release from the newly created entertainment software subsidiary of PDI is an auspicious beginning. It is perhaps the most involving maze game yet designed, providing players with both the standard overhead and a three-dimensional "worm's eye" view of the action.

After randomly generating one of an almost infinite number of maze configurations, the program permits par-

ticipants to study the labyrinth for a few seconds. The computer then produces the three-dimensional graphic and dares the arcader to find the correct pathway.

It's a race against time to see how rapidly one can negotiate the twists and turns. By pushing the action button, the gamer can get another few seconds to study the overhead diagram, but this option costs both time and points every time it is used.

For those poor souls without a sense of direction, **Captivity** can be an all-day exercise, albeit a rather pleasant one. But for arcaders who know where they're at, this program proves to be a surprisingly successful entry in the software sweepstakes.

The game is so well-done that computerists will perhaps even forgive Beyond for only making it available on cassette. At least the supplier includes an audio track of lovely guitar music to help you while away the minutes while the tape loads. (Bill Kunkel)

Protector/Synapse Software
Atari 800/32 K disk and tape

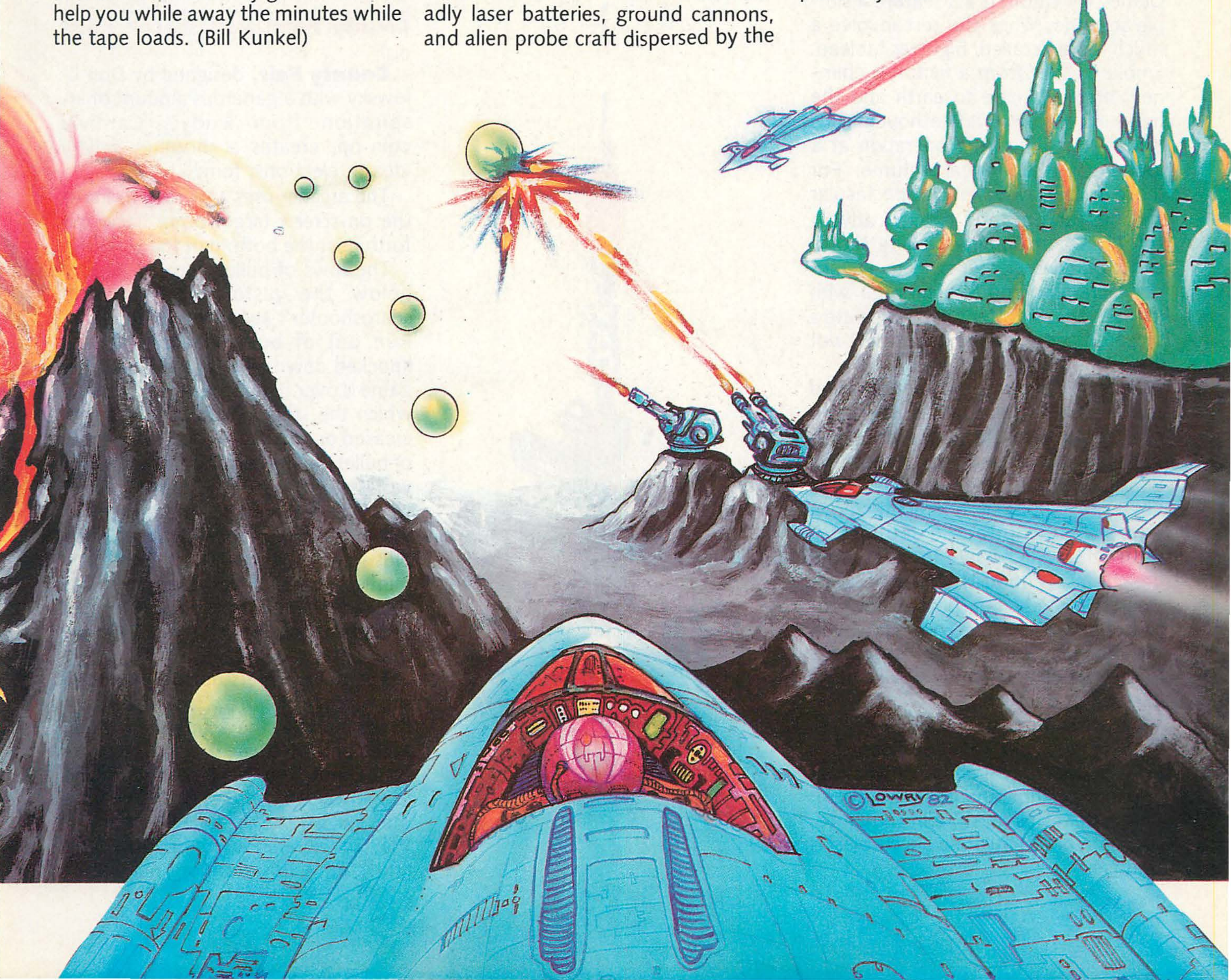
This epic science fiction program, designed by 400-800 wizard Mike Potter, formerly of Crystalware, is actually a reworking of a Crystal original. In the earlier version, the game was genuinely exciting, but clearly lacked the finishing touches that Potter has lovingly lavished on this update for his new employer, Synapse.

The scenario is as follows: Gamers pilot the Protector, last of three Earth flying craft with sufficient firepower to take on the aliens that have all but conquered our poor planet. The tableau consists of two cities; one free, the other controlled by the aliens, separated by an ominous, and highly active, volcano. The Protector must pick up the earthlings, who crowd the streets and tops of buildings in the alien-patrolled metropolis, ferry them over the volcano and drop them off at the safe city.

In the process of accomplishing this feat, the adventurers face several deadly laser batteries, ground cannons, and alien probe craft dispersed by the gigantic mothership. This vessel is busy, meanwhile, picking up humans from the fallen metropolis with its tractor beam and dropping them into the volcano.

Once all the human beings are either dead or on safe ground, a vault door to the heavily armed pneumatic tubeways opens — and the volcano erupts, spewing lava in the direction of the previously-rescued humans in the safe city. When the Protector enters the tube-chamber, it must take out the gun batteries on both walls, then retrieve those previously saved folks and drop them down the tubeway hatches. Only then will the harried humans be shielded from the invaders.

The graphics here will positively take



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away the breath of any arcader who enjoys realistically-presented visuals. Games #1 through #3 feature a simple scenario, while the rest involve a much more detailed, high-res tableau. Smoke gushes from a factory's chimney, meteors sizzle to earth and the haunting strains of Beethoven runs throughout the entire operation at a low, nearly-subliminal volume. For those gamers who enjoy spectacular graphics and a good combat adventure, this horizontally-scrolling shootout combines elements from Defender, Scramble and Super-Cobra with innovations of Potter's own to create a piece of game software you will not want to be without.

In terms of strategy, keep in mind that there are several places where you can keep your rescued folks other than the lava-threatened city. Once the door to the tube chamber opens, it will not close again. At this point, move your rescued into the mountains where they will be safe from lava and meteorites. (Curiously, Potter has provided a roofed "safe house" for protection from the meteors. However, the meteors don't fall on other parts of the safe city, so it may serve a more interesting purpose.

When taking out gun batteries assaulting your ship from two sides, simply wait until they fire, then lower your ship into position and obliterate them. The batteries always fire in sequence, so there's breathing time once a blast is launched.

Overall, nitpickers may find one or two elements slightly bothersome, but the overall package is so visually stunning, the game play so addictive and the action so irresistable, *Protector* has become an instant must-have game program for all Atari computer owners. Very highly recommended. (Bill Kunkel)

County Fair/Datamost/Apple II/48K disk

County Fair, designed by Don Illowsky with a generous amount of inspiration from Exidy's Carnival coin-op, creates a shooting gallery idea in electronic form.

The arcader uses a joystick to move the on-screen target pistol back and forth near the bottom of the playfield.

The rows of bullets located directly below the pistol represent the sharpshooter's supply of ammunition. Run out of bullets before you've knocked down all the targets and the game is over. There are several ways in which the stock of ammo can be increased or reduced. Periodically, a row of bullets — the actual number of slugs varies greatly — will appear somewhere near the top of the playfield for a few seconds. Some are preceded by plus signs, while others are fronted by minuses. If a shot from the gun strikes such a row, the corresponding number of bullets is added or subtracted from the gamer's supply.

The duck targets not only must be shot from the field, but they also pose a direct threat to the ammunition dump at the bottom of the screen. The quackers, like all the other targets, drop one row lower on the playfield each time they exit off the right viewing edge. If they get close enough, they take wing and gobble up a random number of your remaining stock of bullets.

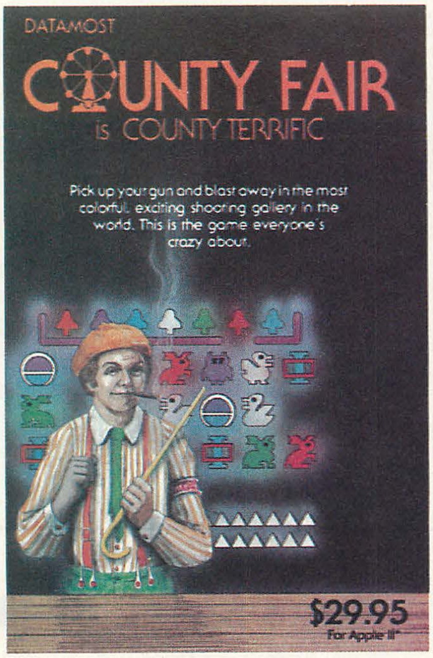
The bunnies are also worth watching very closely. Like all rabbits, these hares multiply constantly.

The line of trees in the box located at the center top of the playfield are hardest to hit. Not only are they the only targets that cross the field from right to left, but there are only two narrow slots in the box through which to aim shots. The best advice is to line the gun up with one of these open channels as early in the game as possible. That way, should a shot miss one of the regular targets, there's a chance it will continue through the slot and hit a tree.

Any shooter who clears the whole screen, including the trees, enters a bonus round. You have the opportunity to use all your surplus bullets to repeatedly hit a wild duck that flaps back and forth across the now-empty screen.

In either case, the screen resets with a complete field of targets and a new load of bullets. Play resumes, but this time at a slightly faster speed.

County Fair is sure to hit the bullseye for arcaders who enjoy target-shooting programs. (Arnie Katz)


DATAMOST
COUNTY FAIR
is COUNTY TERRIFIC
Pick up your gun and blast away in the most colorful, exciting shooting gallery in the world. This is the game everyone's crazy about.
$29.95
For Apple II

COUNTY FAIR

Ricochet /Automated Simulations/ Atari 800 & Apple II/Atari 32K, Apple 48K

Every once in a while, a game comes along that is so fresh, so offbeat and entertaining, it becomes almost a compulsion among players who've overdosed temporarily on maze chases and blowing up aliens.

Play begins with the selection of one of the five game variants, with #1 the easiest, and so on. Gamers then decide whether they'll play against one another or the computer, then set the skill ratings for each participant.

Once the playfield is constructed, it will resemble a square grid, marked by rows of dots. At the left and right of the screen are each player's launchers, pieces and bumpers. During his turn, a player may choose one of two options: launch or reposition pieces. Choosing the latter allows the gamer to reorient the long, see-saw like pieces into different locations on the grid. Opting to launch allows the combatant to fire his launches in pinball fashion from either the top or bottom of his side of the screen. Once fired, the ball travels in a direct line along the grid dots — enabling the skilled player to plot the course before the move is actually made.

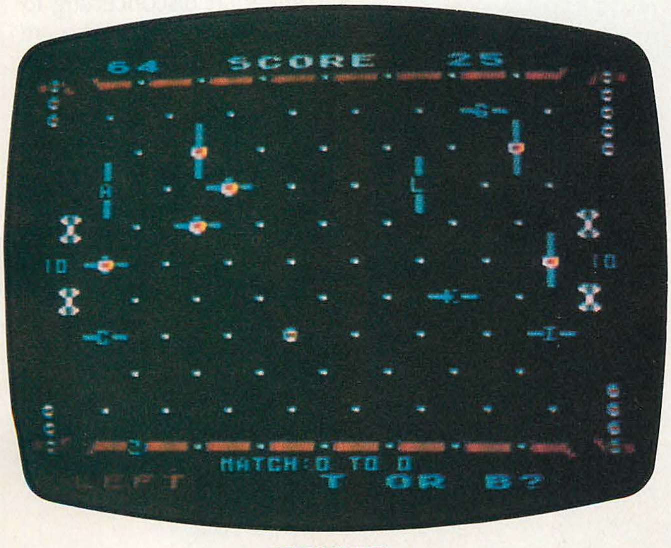
The object of the game is to strike as many pieces as possible. Striking a piece scores a point, but has far greater implications as it now alters the angle of that piece. Each time a piece is changed, the entire tactical approach to the game is similarly altered.

Bonus points are scored for hitting the opposing player's bumper(s) or for lodging a launch in the opposing player's launcher — which also incapacitates that launcher for a pair of turns.

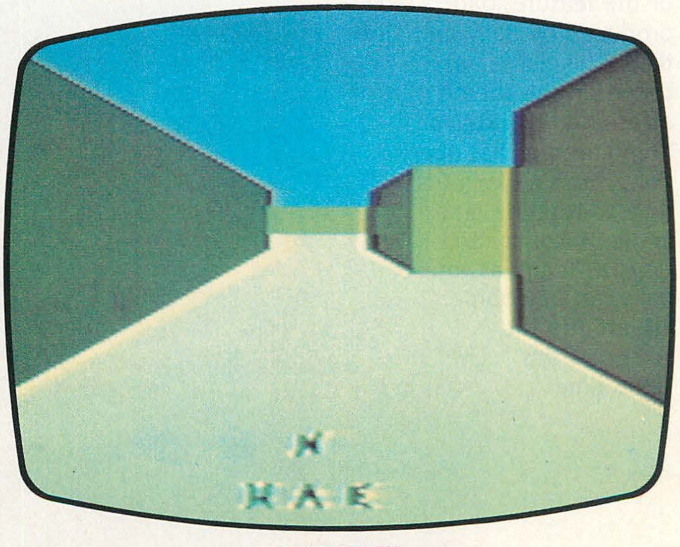
The audio and graphic effects are simple but wholly satisfying, with each of the five variations played against differently colored, but quite striking, backdrop colors. The pieces tinkle like delicate chimes when a ball deflects off them and when a buzzer or launching slot is hit, the computer reacts with a harsh buzzing.

Beyond graphics, however, *Ricochet* — which can be played using either the computer keyboard or joysticks as controllers — is a delightful contest that involves elements of action, strategy and tactical thinking in a marvelous ensemble.

A truly offbeat triumph. Well worth checking out, and highly recommended for fans of strategy contests. (Bill Kunkel)



RICOCHET



CAPTIVITY

Update: Electronic Adventure Games

The year 1982 proved a big one for computer adventures. Games like **Time Zone** (On-Line), **Kabul Spy** (Sirius Software), **Cyborg** (Sentient Software), and **Deadline** (Infocom) made computer role-assumption games easier—and more fun—to play than ever before. **Deadline**, though a text adventure, introduced communication via whole sentences instead of cryptic two-word commands.

Brave the Perilous Skies of World War II!

NIGHT MISSION

Sublogic/Apple II/48K disk

It's either feast or famine in the computer software game. Until mid-1982, **Raster Blaster** stood alone as the only first class computer pinball simulation. Then, virtually simultaneously, came **David's Midnight Magic** (Broderbund) and **Night Mission.**

Which is the best? It's hard to say, because personal taste in flipper-game action will be the deciding factor for many gamers. Quite a few will probably want to purchase all three, because each is so individual. After all, most of us own more than one invasion game, maze-chase or scrolling shoot-out.

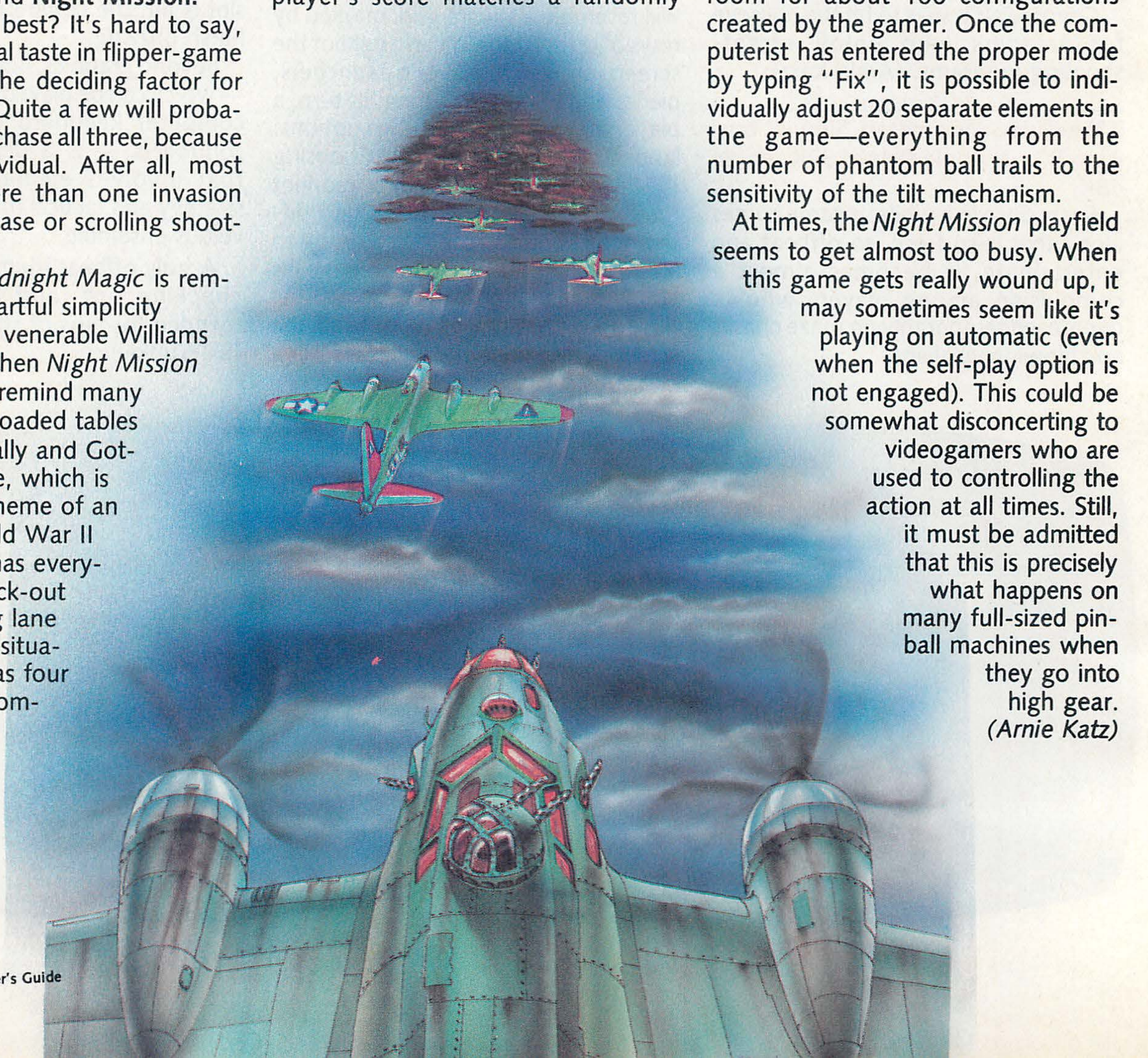
If *David's Midnight Magic* is reminiscent of the artful simplicity of some of the venerable Williams pinball tables, then *Night Mission* instead should remind many of the feature-loaded tables produced by Bally and Gottlieb. This game, which is based on the theme of an after-dark World War II bombing run, has everything from a kick-out hole to rotating lane lights. In some situations, as many as four balls can be zooming around the screen at the same time.

The meticulousness of the simulation is awesome. For instance, i- is necessary to press the "Q" key, which puts a quarter into the on-screen slot to begin a game. The program also awards free games for high scores or making appropriate bonuses. It even gives a free game if the last digit of the player's score matches a randomly generated number, just like many of the coin-op flipper games do!

But the truly amazing thing about *Night Mission*, overshadowing all of its other plusses, is that it is user-modifiable to an incredible degree. The game comes with nine complete modes already in place, but there's room for about 100 configurations created by the gamer. Once the computerist has entered the proper mode by typing "Fix", it is possible to individually adjust 20 separate elements in the game—everything from the number of phantom ball trails to the sensitivity of the tilt mechanism.

At times, the *Night Mission* playfield seems to get almost too busy. When this game gets really wound up, it may sometimes seem like it's playing on automatic (even when the self-play option is not engaged). This could be somewhat disconcerting to videogamers who are used to controlling the action at all times. Still, it must be admitted that this is precisely what happens on many full-sized pinball machines when they go into high gear.

(Arnie Katz)



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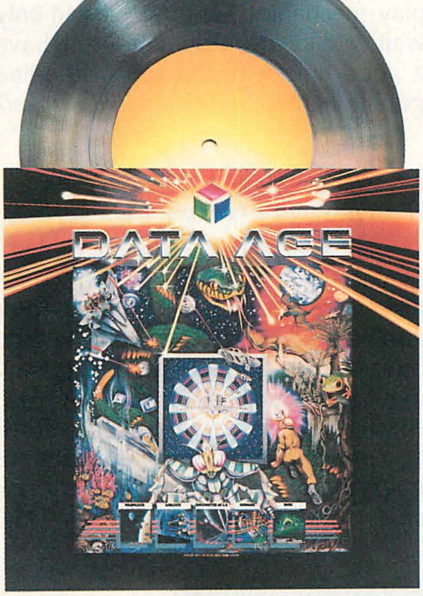

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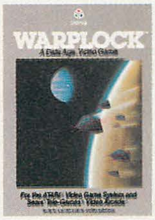
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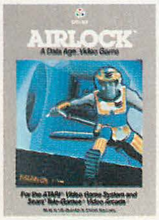
AIRLOCK
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DATA AGE

UP TO NOW, YOU'VE HAD IT EASY.

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SNACK ATTACK

Datamost/Apple II/48K disk

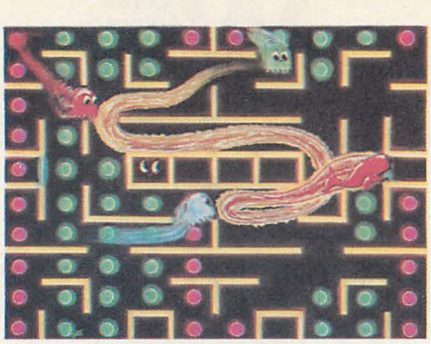
This delightful game for the Apple II computer involves a hungry whale, a sea of gumdrops and a quartet of pursuing guards. Playable with either the keyboard or joystick (preferable), **Snack Attack** has the arcader guiding the famished fish around three entirely different maze-like playfields. Each one is stocked with four energizing elements—magic stars, actually—that, when eaten, give the whale the power to chomp the guards.

More than a few readers will find this play-routine . . . familiar. Fortunately, the graphics, maze structure and audio effects raise this title far above other maze-chases created for this popular microcomputer system.

One important difference from **Pac-Man** is the presence of horizontal green and vertical purple doorways in the walls of the labyrinth. The whale has the advantage of being able to swim through the green portals, while its just another solid barrier to the guards. On the other hand, the goon squad can make timely use of the purple doorways, but the whale must go the long way around.

There are even gumdrops located within the central pen area, which is sealed by the magic doors, so this feature can't simply be ignored. And don't try to leave through the trap door!

The audio/visual aspect of *Snack Attack* is, however, its most endearing quality. Highlights are the undulation of the whales mighty fin as it swims through the candy cove, the gulping noises and the way the seagoing mammal "blows up real good" (as they say on "SCTV") when it runs out of running room.



SNACK ATTACK

If Datamost can do this well when trodding well-worn paths, arcaders can only wonder what type of programs this supplier will publish in the way of games with more innovative play-mechanics. For now, we can only wait with keen anticipation—and have a good time with this top-of-the-line gobble game. *(Bill Kunkel)*

CRICKETEER

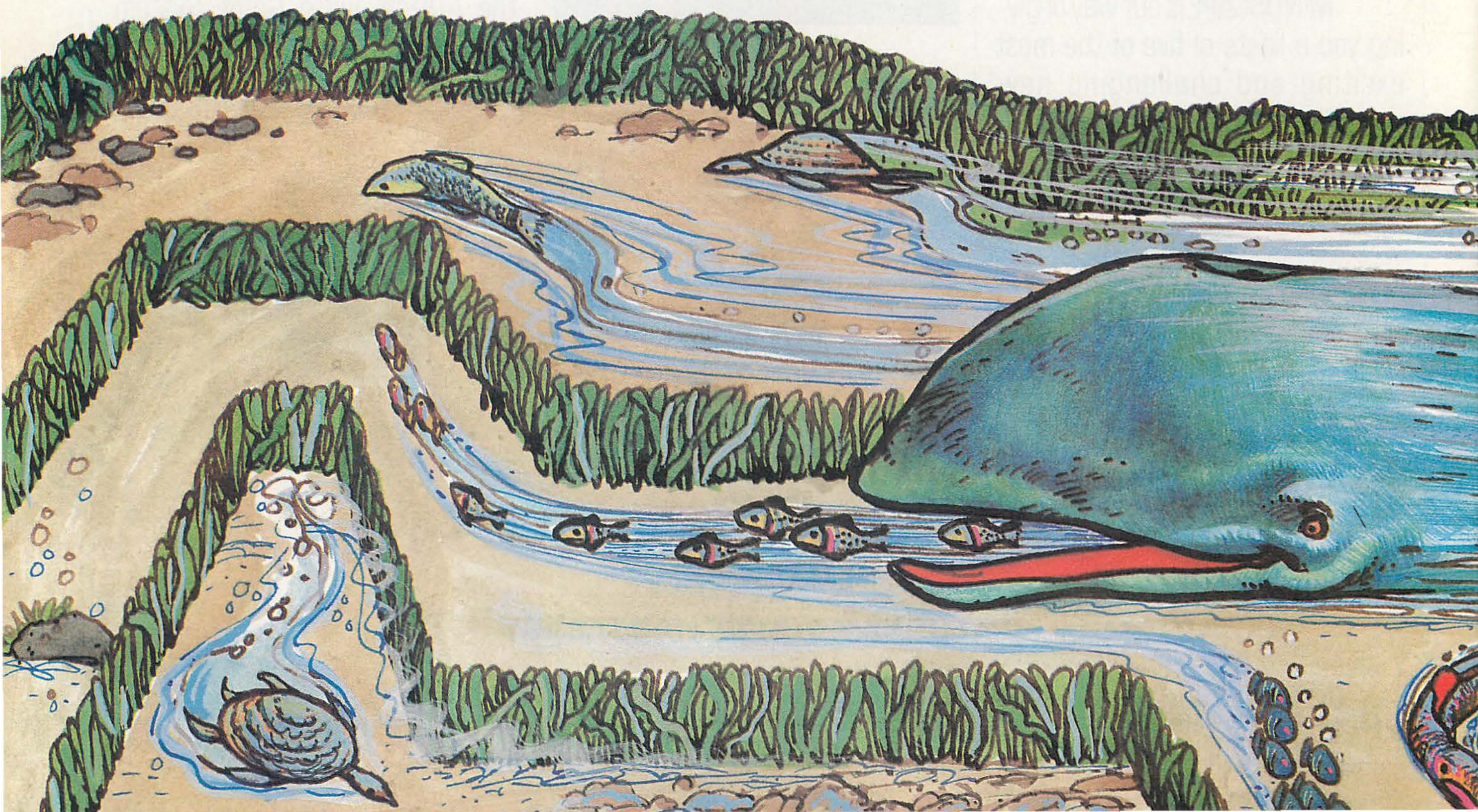
The Software Farm/Apple II/48K disk

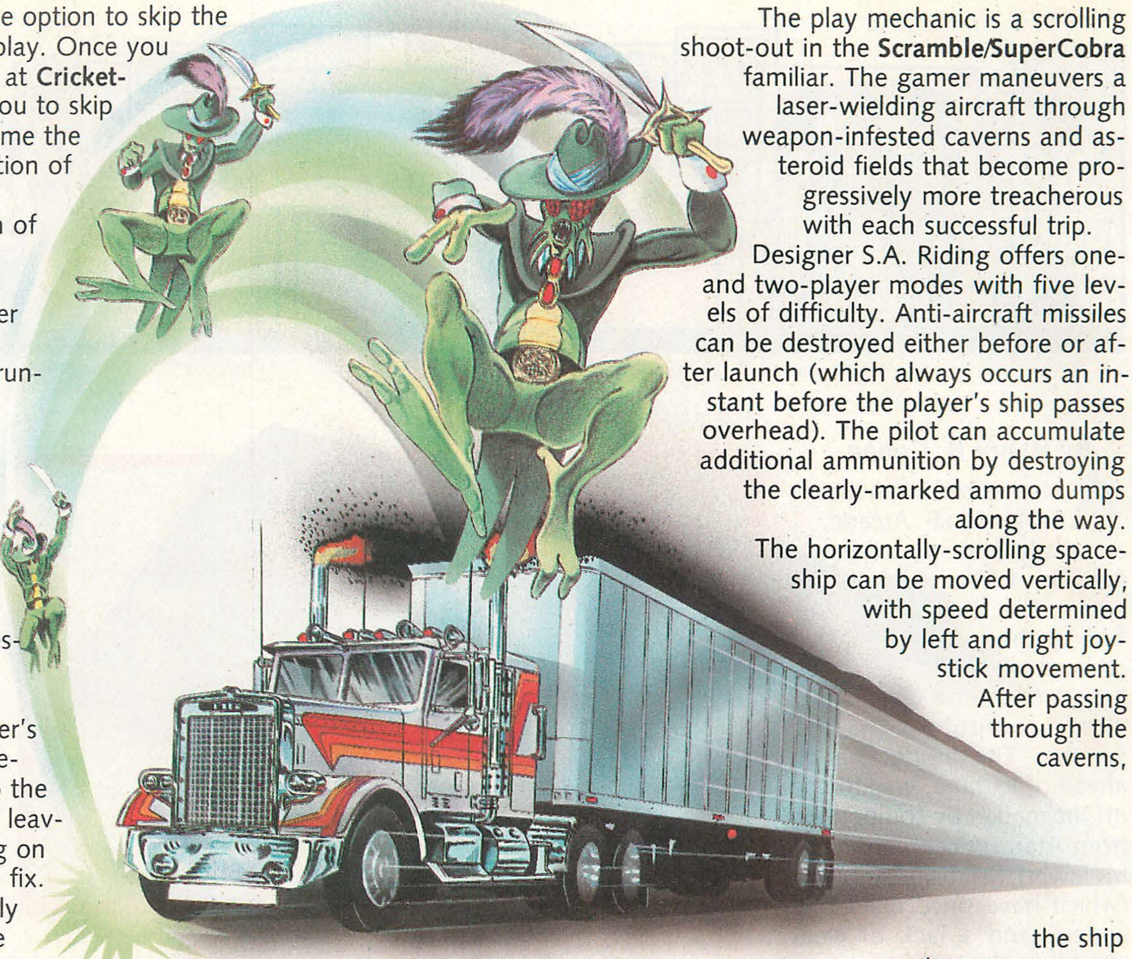
"Life ain't easy for a lowly cricket" begins the instructions for this one-player traffic-dodging contest. After you've tried to guide one of the little bugs across the four-lane highway, over the dreaded Black River and then through some unsuspecting homeowner's front door, the odds are good that you'll consider that remark an understatement.

Reviewers in this column have increasingly rapped the knuckles of software producers who do not program their arcade-style games to utilize joystick input. This is a keyboard game—"A", "Z", left arrow and right arrow represent, respectively, up, down, left and right—but that doesn't create quite as much of a problem as it does in many other games. Movement is simple enough to handle using the equivalent of four buttons, and designer Rod Nelson has thoughtfully provided the option of re-assigning the directional commands to different keys if the gamer so desires. Still, there's no substitute for the ease of joystick control, and it is to be hoped that Nelson will take this into consideration when putting together his next effort.

Each round of play consists of getting five crickets through this obstacle course. Jumping the final insect into the left-most house is quite tricky, so beginners will find themselves competing on the first level a good deal of the time. Getting a cricket safely home earns 200 points, with the possibility of a bonus of another 200 if the bug has managed to snag a food particle along the way. Jumping into the same space as a lady cricket and then escorting her home is worth a 500 point bonus. A complete round boosts the score by 1,000 bonus points. Bonus points are also awarded for the amount of time remaining on the clock after the gamer steers a cricket past the various obstacles.

Partially making up for the lack of





joystick control is the option to skip the first two rounds of play. Once you become fairly adept at **Cricketeer**, this will allow you to skip what will have become the least interesting portion of the game.

The traffic portion of the game is nothing special, but the trek across the Black River holds more interest. It seems that a disgruntled employee of a tongue depressor manufacturer has blown up the plant and choked the waterway with the destroyed firm's product. The surfboard-shaped depresses serve the crickets as a floating bridge, though player's must look out for depressors that sink to the bottom of the river, leaving the cricket riding on top of it in a deadly fix.

Cricketeer is clearly aimed at fans of the popular coin-op game, **Frogger**. The course of play is very, very similar, though *Frogger* is definitely the superior design, especially from the point of view concerning art and sound effects.

Still, it's an amusing game that's also tough to play. *(Arnie Katz)*

AIRSTRIKE

English Software Co./Atari 400 & 800 tape and disk/32K

This is the first British-produced piece of computer game software received here at **EG.** If it's a sign of things to come, then Hail, Britannia!

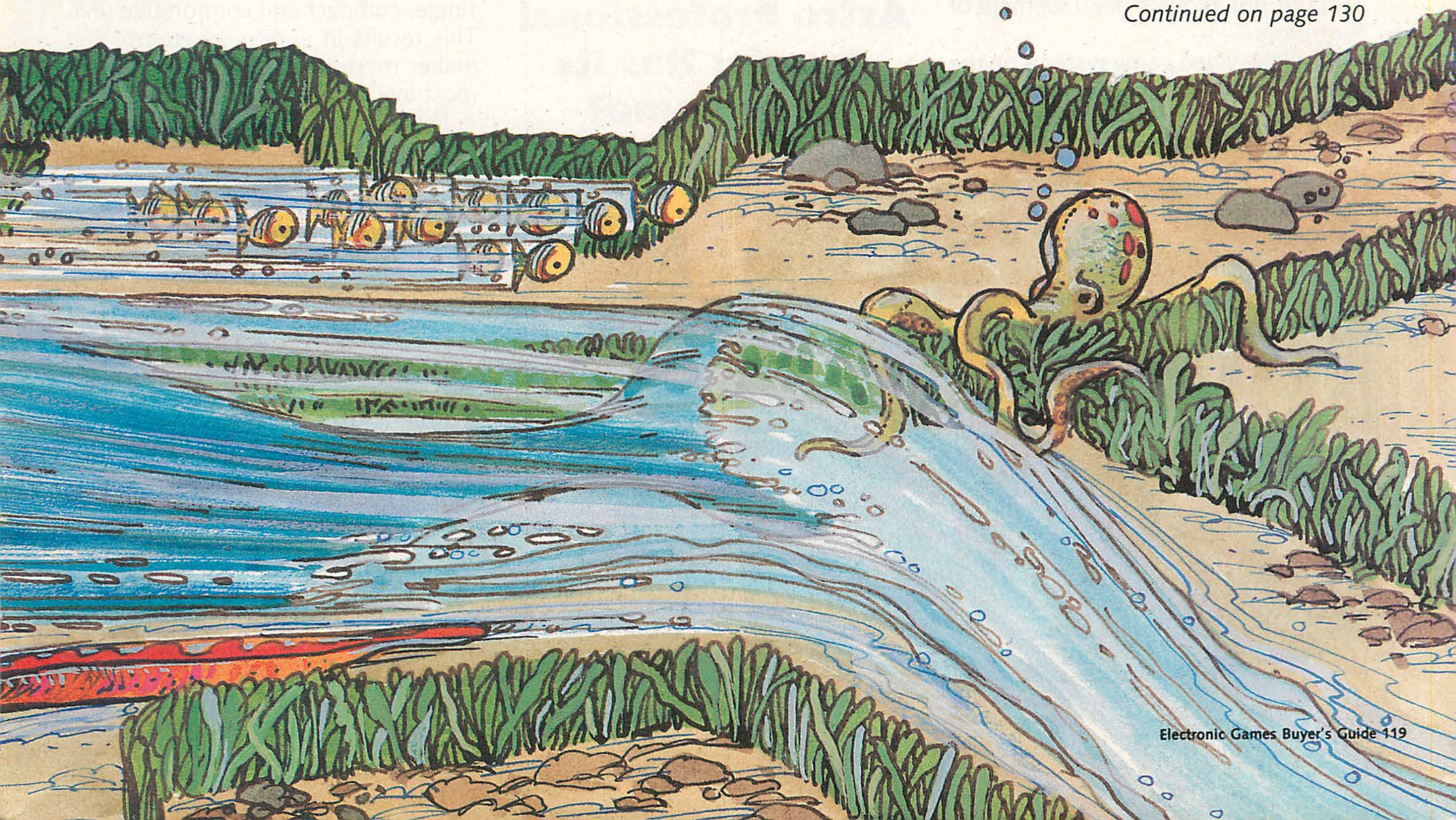
The play mechanic is a scrolling shoot-out in the **Scramble/SuperCobra** familiar. The gamer maneuvers a laser-wielding aircraft through weapon-infested caverns and asteroid fields that become progressively more treacherous with each successful trip.

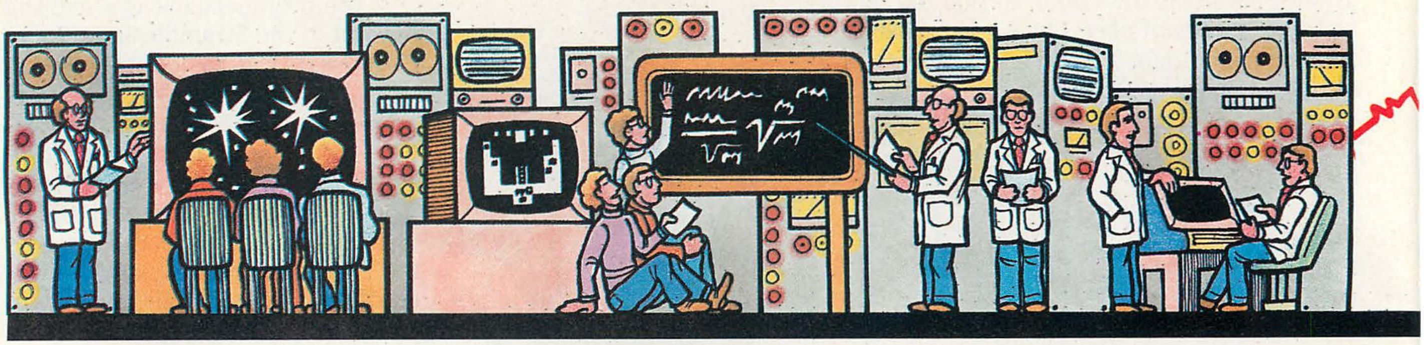
Designer S.A. Riding offers one- and two-player modes with five levels of difficulty. Anti-aircraft missiles can be destroyed either before or after launch (which always occurs an instant before the player's ship passes overhead). The pilot can accumulate additional ammunition by destroying the clearly-marked ammo dumps along the way.

The horizontally-scrolling spaceship can be moved vertically, with speed determined by left and right joystick movement.

After passing through the caverns, the ship enters an open area of space in which asteroids fall like raindrops on Picadilly Circus. The space rocks can be either destroyed for points or simply avoided. At the end of the asteroid field, the aircraft reaches a spacewall which can only be breached by blasting through the yellow airlock

Continued on page 130

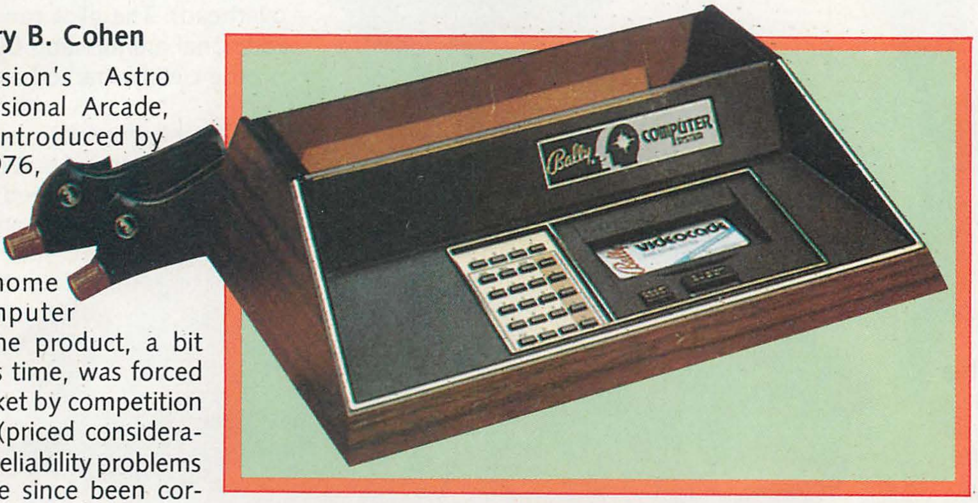




Astro Professional Arcade: Has Its Time Come?

By Henry B. Cohen

Astrovision's Astro Professional Arcade, originally introduced by Bally in 1976, was the first of the current breed of home video computer systems. The product, a bit ahead of its time, was forced off the market by competition from Atari (priced considerably lower), reliability problems (which have since been corrected) and a lack of clear identity in the mind of the consumer.



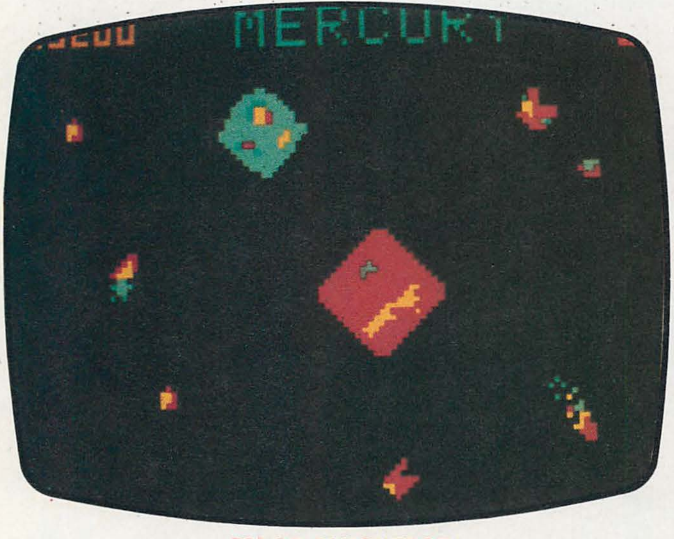
ASTRO CONSOLE

Was it a computer that played games or a game that could function as a computer? Back in 1976 this point was far more worrisome than it is today. In a world of Atari 400s and 800s, TRS-80 Color Computers and TI 99/4As, being a crossbreed is an advantage, not a source of puzzlement or confusion.

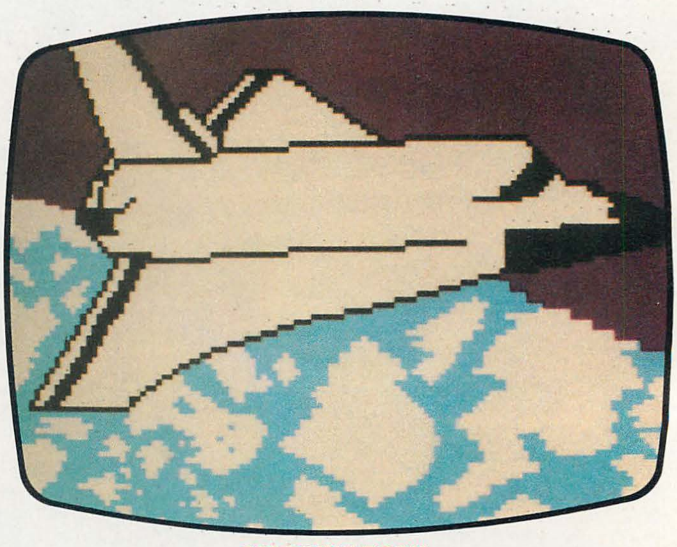
Of all the video game systems on the market, the closest competitor to the Astro Arcade is Mattel's Intellivision. But the comparison ends abruptly when Bally Basic is mentioned. Without any additions, the Professional Arcade is a 4K color computer and therefore leaves all competition behind.

As a pure game playing machine, the Astro is almost without peer. It is simply superb. Graphics are on a par with the best of Intellivision, particularly in the area of sports simulations. Needless to say, they are superior to Atari and Odyssey^2 in just about all cases. Unlike Intellivision, speed does not appear to be sacrificed for graphics or complexity. Nevertheless, game playing variations are few (unlike Atari) and solo games (those pitting you against the computer) are currently limited. On the plus side the controllers are the best we've seen. They combine paddle, joystick and trigger into a single, compact and comfortable unit. This results in eight-way control and makes mastering a game function almost instantaneous.

The Arcade console, a contempor-



SOLAR CONQUEROR



COLORING BOOK

TECH FILE

ary mixture of woodgrain, black and smoke glass styling, includes three microprocessor units: a Z-80 CPU, a custom designed video processor and I/O. In addition three separate synthesizers produce outrageous and realistic sound effects. A game cartridge port and calculator-type keypad complete the Astro Arcade save for reset and eject buttons.

The console features two built-in games — **Gunfight** and **Checkmate,** a line-building game, as well as an on-screen calculator and a video scribbling program. The latter lets you draw anything you like on-screen or allows the computer to scribe its random patterns if you're feeling a bit lazy. The patterns could also be used as title backgrounds for a home video production.

As if all this self-containment wasn't enough, the unit also stores up to fifteen game programs without the need of accessory lids or the like.

There is not much to criticize about the Astro Arcade. The on/off switch hidden below and behind the console is a continuing source of problems. Women with long fingernails will find it all but impossible to turn the unit on or off without breaking them. Because all inputs and outputs except for the cartridge slot are located on the back panel almost at the bottom of the machine, connecting any controllers and/or peripherals may become troublesome. A lesson could be learned from Atari which has moved its connectors to the more accessible upper lip of the rear of their newer machines. These are small points, however, and should not be a determining factor in the decision to purchase this machine. While we're nitpicking, two other points are worth mentioning. Because the game cartridges *fit so neatly* into the storage compartment of the console it would be more convenient to have them labeled on their spines for quick identification. In addition, because so many people now own TVs with 75 Ohm inputs, why not produce a game switch with a 75 Ohm output instead of the 300 Ohm twin-lead supplied as standard in the industry.

Which brings us to Bally BASIC. This is a must cartridge for the system. Even if you have absolutely no interest in computers or programming, the BASIC cart allows you to key in any of the many games already written for the Professional Arcade. Better yet, if you can find a friend with, or source of, the Astro game programs on cassette tape, the built-in interface will allow you to program your Arcade using just five simple keystrokes. Some of the games are presented in the instruction book that comes with the BASIC cartridge. Others are available through computer magazines or from the *Arcadian,* the Pro Arcade users publication that has been one of the best kept electronics games secrets of the past few years. A membership/order form comes with every new Arcade console for those who are interested in receiving the publication or their programmed tape cassettes.

Bally
PROFESSIONAL
videocade

CONTROLLERS & BASIC

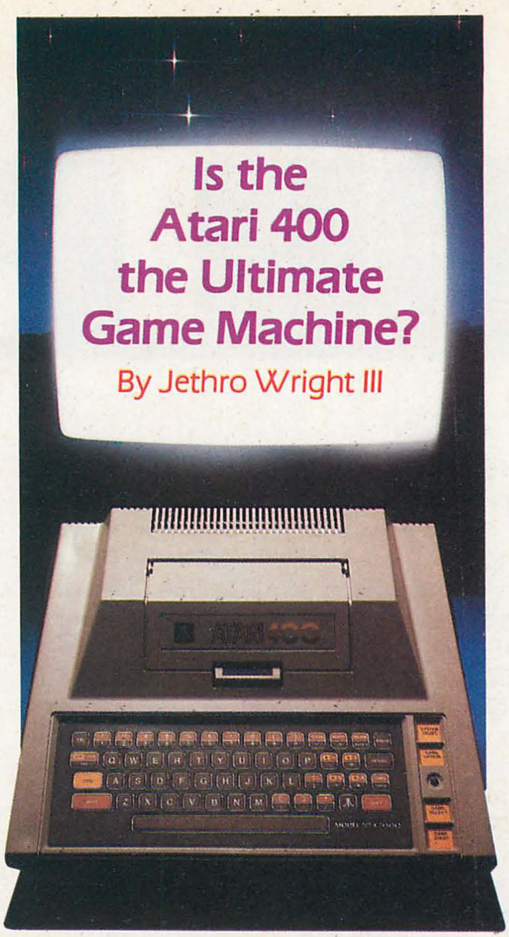
Without going into much detail, to program the Astro Arcade through its calculator type keypad requires great patience. An overlay, supplied with the BASIC cartridge, provides identification of the keys, but because many of them are multi-function, two keystrokes must be used before inputting almost any character to the machine. It takes time and practice but eventually you will be able to program fairly quickly.

Editing can be somewhat frustrating, because once you enter a line the cursor can only move forward without erasing. So plan to make very few mistakes as correcting them can take as long as entering the original program. This is, nevertheless, a major improvement over the original Bally BASIC program which did not contain an editing feature and required complete re-entry of each line containing an error.

The instruction manual, rewritten from the original Bally version, is unclear on many points. It is being rewritten again, but will have to suffice for now. Read it thoroughly several times before you begin to program, or you may think that something is amiss when it is not. Of utmost importance; when using the cassette interface the instructions tell you to type in a command. They fail to mention that you must precede this command with a colon (:) and then key in the word. Do not type it in letter by letter. Also, if you have trouble loading a program be sure that the tone or treble control of the recorder is set to its midpoint. Too much audio "noise" caused by a "hot" tape or highly set treble control will confound the computer's input. As the built-in interface does not have an automatic volume control, you must first calibrate the volume control of your recorder to the Astro's input level requirements. To help do this, the cartridge contains an LED indicator. Once it glows steadily, the volume control level is properly set — a handy feature. And once things are set correctly, loading programs is a pleasure as the unit works perfectly and consistently.

Is the Atari 400 the Ultimate Game Machine?

By Jethro Wright III



ATARI 400

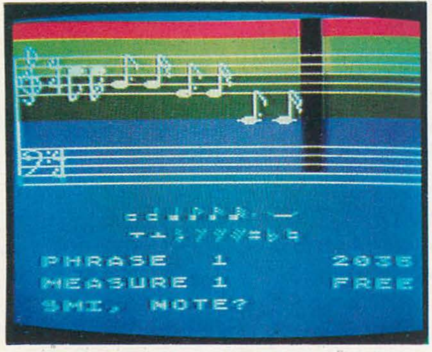
Having tasted unqualified success with its entries in the coin-op and programmable videogame markets, Atari turned its formidable expertise toward the logical next step: a true home computer/gaming system. The new product would be infinitely more flexible than their existing machines, because of its highly programmable nature.

Instead of producing only one system, Atari developed a pair of variations on a single theme, each pegged to a particular price-point: the Atari 400 and 800.

This month's "Test Lab" focuses on the smaller, and less expensive, of the two. It's the system that is rapidly becoming the darling of the computer gamers, the Atari 400.

The unit is a simple integrated keyboard/CPU configuration with a single internal slot that accepts Atari's computer ROM cartridges. The other external features include four ports for standard Atari paddle or joystick controllers, a TV output with RF modulator and a multipurpose interface that makes it simple to attach peripherals.

The keyboard is monoplanar. It uses 57 touch-actuated switches on a flat board. It has no moving parts and is sealed to resist contamination. Translation: it ignores moderate amounts of ice cream, coffee and other substances that are ordinarily fatal to computers. The computer makes a click to signify a successful keystroke. While this sort of data input board is quite adequate for the needs of computer gamers, it will almost certainly discourage anyone from attempting to do any serious programming.



PHRASE 1 2035
MEASURE 1 FREE
SMI, NOTE?

MUSIC COMPOSER

The 400 also features a quartet of function switches and an on/off indicator light at the far right end of the console. These buttons govern system reset, option, select and start. They are, of course, used primarily when playing games.

The multi-function port is a 13-pin connector, located next to the power switch on the right side of the machine. Through this port, the Atari 400 can access a printer, cassette player, disk drive or an Atari 850 interface module. (The 850 is used much like an audio mixer to contain several such peripherals at once.) Actually, the machine can access either two disk drives or a disk/cassette team-up through a simple daisy-chaining procedure: The primary drive is attached to the port, and the cassette or second drive is then plugged into the back of the first disk. This is especially useful when transferring programs from tape to disk.

Since the Atari 400 falls into the category of computers oriented for use in the home, the manufacturer had no intention of providing for memory expansion beyond the now-standard 16K. Several companies are already offering upgrade boards that will take it up to 32K. Therefore, should you desire to put more byte in you 400, a Phillips screwdriver attached to a capable arm can easily strip it down to board level in less than 10 minutes and do the conversion.

Once inside the housing, there are only 30 IC's, including the 6502 CPU, various I/O controllers and memory. The chips are distributed among a CPU card (closest to the rear), a 16K-byte memory card, and a motherboard to accomodate the aforementioned PC boards and the I/O circuitry.

At this level, I have two comments:

1. The CPU and memory boards should be keyed to prevent incorrect insertion. Horror stories about upgrade boards installed backwards are legendary in Atari 400 circles.

2. The speaker that produces the audible beep when typing and the CLOAD indicator could be mounted more securely. It is positively unnerving to hear it rattling around inside the console.

As a total system, the Atari 400 is most impressive for its price, $399, suggested

Making Videogames Talk

The newest wrinkle in videogames is programs that actually speak to the players—and not just in the usual beeps and boops, either.

The Intellivoice, by Mattel, is the first such unit to reach market. It plugs into the master component and, in turn, accepts special voice game carts. (Regular games can be used without removing the unit.)

N.A.P. will soon debut a similar unit for the O².

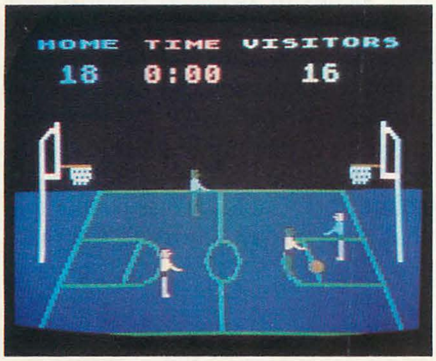
Gourmet Controllers

Premium quality controllers are the latest rage in gaming. Atari-compatible joysticks are available from companies like WICO and Discwasher, button controllers from Starplex and B.C., and a track ball is also coming from WICO soon.

retail. With the option of using up to four joysticks (or an almost unbelievable eight paddles!), excellent graphics capabilities (including certain modes that allow selection from a pallette of 64 colors) and a sound-through-the-TV generator, the Atari 400 serves as an excellent foundation for a home gaming system.

For programmers and gamers alike, Atari offers its BASIC cartridge. This dialect of the most popular computer language is similar to other versions, with extensions designed for use in a gaming environment.

BASKETBALL



Of particular interest in this regard is the concept of player-missile graphics. This provides the programmer with a simple interface for the development of game programs. Principal features of player/missile graphics include:

- Independent control of one to four joysticks
- Flexible manipulation of player objects such as player tokens and missiles on the screen, including user-selected foreground and background color options for these objects.

The Atari BASIC Reference Manual, one of the earliest items the company released, could stand some real improvement in the explanation and clarification of various keywords and their options. On the other hand, the Atari BASIC instruction Manual is a hefty tome that is far better suited to owners needing a real introduction to computing.

Although the Atari 400 lacks the 800's full-stroke keyboard and modular expandability, it embodies many elements that make it a fine home arcade machine.

Judging by its rapid acceptance by consumers, a lot of electronic gamers evidently share this opinion.

Atari 400 at a Glance

Price: $399.00

Weight: 5¾ lbs.

Dimensions: 4½ in. x 13½ in. x 11½ in.

Microprocessor: 6502

Color: 128 (16 colors at eight intensities each)

Sound: Four voices; four independent sound synthesizers; four octaves with variable volume and tone; independent speaker plus sound through the TV.

Keyboard: Monoplanar (touch-activated flat switches)

ROM: 10K bytes

RAM: 16K bytes

Programming languages: BASIC, Pilot and Assembler.

Monitor: Television set with RF included.

Games: (From Atari): **Star Raiders, Basketball, Space Invaders, Asteroids, Missile Command, 3-D Tic-Tac-Toe, Computer Chess, Video Easel** and **Music Composer** (assigns musical tones to keyboard).

computer glossary

Auxiliary Storage: Devices used for saving programs when the system itself is turned off. Since RAM loses its contents when the machine is powered down and ROM can only be programmed by the factory, auxiliary storage keeps programs between operating sessions. It can't be used instead of RAM or ROM, however, since it doesn't operate as fast as the CPU.

CPU: Central Processing Unit. This is the microprocessor—or electronic brain, if you will—that lies at the heart of every computer.

Disk Drive: An auxiliary storage device that works like a cross between a phonograph and a cassette recorder. By using plastic disks coated with a magnetic surface, such drives are faster and more reliable than cassette storage.

Interface: The part of the computer that permits the attachment of peripheral devices. These include cassette recorders, joysticks and a connection for a TV set or monitor.

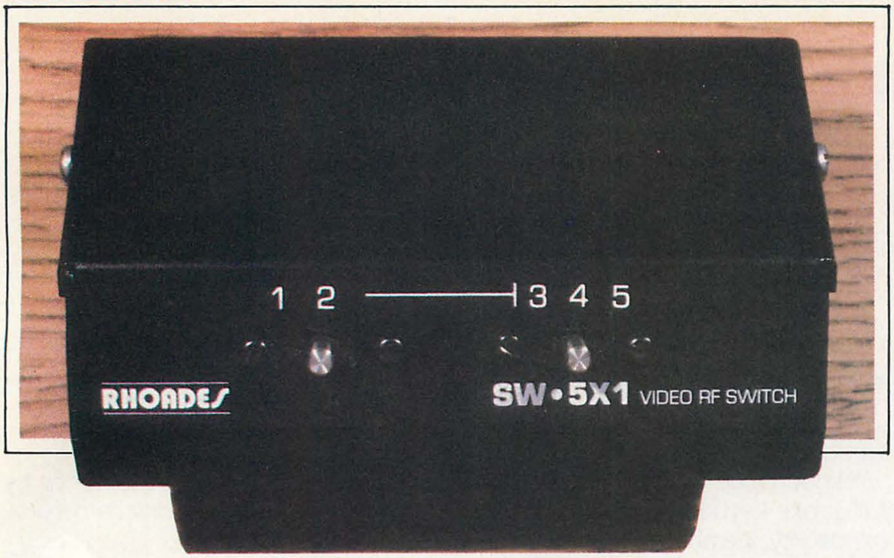
Modem: Modulator-demodulator. A piece of equipment that allows computers to communicate with each other over telephone lines.

Interpreter: This translates programs from human-readable form into a series of codes the computer can understand. This makes using a computer a lot simpler for first-time programmers.

RAM: Random Access Memory. This is the internal memory the computer actually uses when running a program. It can be revised or read an infinite number of times

ROM: Read Only Memory. This type of memory is also internal to the system, but it cannot be altered by the computer operator. Its contents are fixed at the factory and can't be changed. Most computer games bought in ready-to-play form fall into this category. ★

RHODES SYSTEM



Switch'em — Don't unhitch'em

What to do when you've graduated to a couple of videogames, have cable TV, a VCR and/or videodisk player and own (as we all do) a TV set with only one VHF antenna connector? This is a matter of growing concern to many **EG** readers.

Some people soften the problem by connecting their antenna/cable TV to the VCR, the VCR to their videogame switch (by using a matching transformer called a Balun) and the switch to their television set. If the set has only a 75-ohm input, like most Sony's, a second Balun will be needed. Then by unplugging and plugging their videogame systems as desired, they live with a primitive solution, unwieldly at best and inconvenient at worst.

Other folks, compromise their once excellent VCR or cable signals, which previously entered their TVs directly, but routing them through a Balun to the videogame switch. This switch, not of extremely high quality, is connected to the TV via its 300-ohm twinlead wiring. The result, in some cases, can be very slight to moderate picture distortion depending upon the quality of the VCR or cable signal, the cable converter, and the proximity of the whole system to nearby television transmitters.

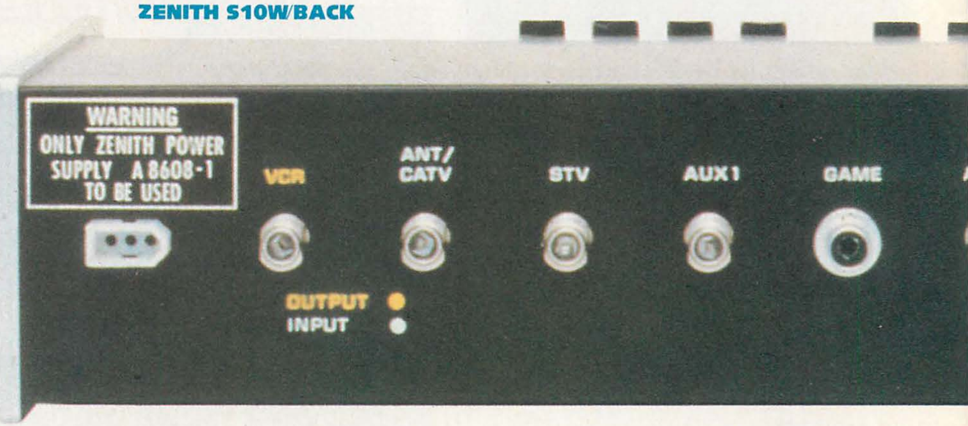
There are many different ways to make video connections. Which of them is really best? Can the hookup be made to operate more conveniently? How can picture integrity be maintained with all these gadgets hooked up and operating?

All video signal generating equipment, whether games, VCRs or disc players, supply their TV signals to your set through a coaxial cable. This shielded wire, unlike twinlead, is designed so that the video signals travelling through it cannot leave the path of the cable and enter the air around the wire. If such spurious radiation were to occur, it could generate interference which might be picked up by nearby TV sets or radios. Similary stray signals which are always present in the air (and that might interfere with the signals coming from the videogames, VCRs or disc players) are kept out of the system by shielded cable.

With just about all videogames and home computers the shielded output cable terminates in what is called a "male RCA connector". This plugs into the "game switch" supplied with the game system, which is in turn connected to the TV set via unshielded 300 Ohm twinlead wiring. Since only a few inches of twinlead are involved, signal interference either outgoing or incoming is held to a minimum.

But why take any chance at all? The answer is simple. Most TVs manufactured up to three or four years ago did not have—or need—75 Ohm input connectors. Cable TV has changed all that. Even today almost all TVs made

ZENITH S10W/BACK



Supercharging the Atari 2600

The Atari 2600 (formerly known as the VCS) remains the most popular videogame system, despite some limitations, notably in the area of on-screen graphics. The Supercharger is a small device designed to give the system a shot in have a 300 Ohm twinlead input while only a few feature the preferred 75 ohm input as well. Sony uses a 75-Ohm input exclusively, which tells us something about the superiority of cabling all the way into the TV set that other manufacturers should note.

Now that we know why shielded cable is preferable for video devices, what exactly do we do about it? More important, how do we properly hookup a number of such devices to our TV sets? Enter video switching.

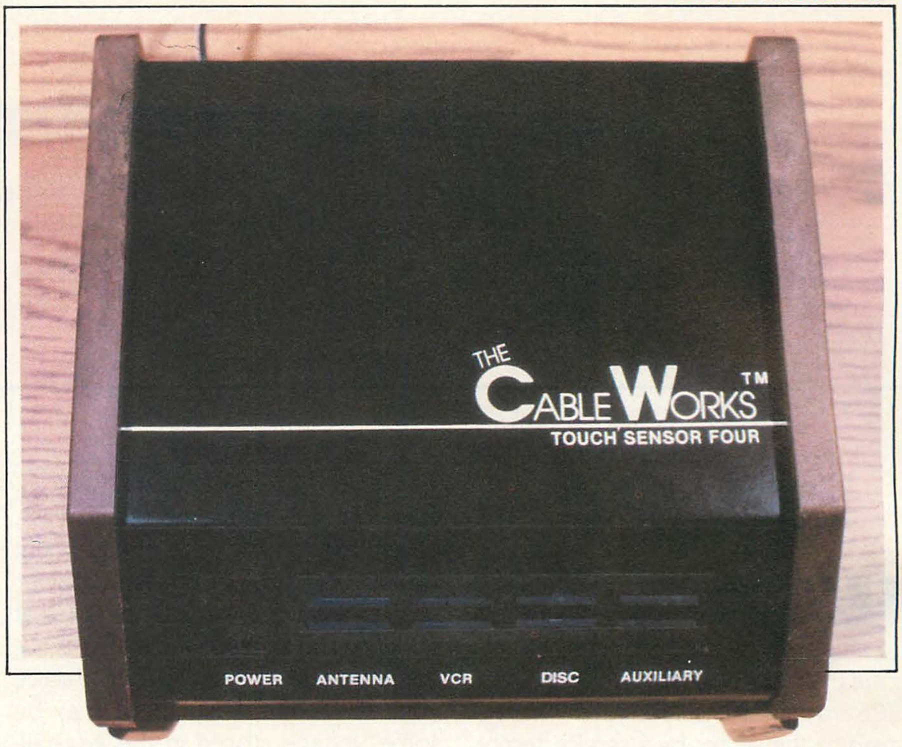
The simplest form of a respectable video switch is a 75 Ohm A/B switch. This mechanical device, costing from $8.00-$12.00, takes two incoming signals (from any video source) and supplies either of them to a connected TV set. The switch features high isolation (necessary so that the two signals do not interfere with each other) and virtually no signal loss.

This switch is ideal if all you need connect is a single videogame and an antenna or cable TV signal to a single TV set. It is the 75 Ohm equivalent of the game switch that comes with your game console and need only be employed if you are experiencing some signal degradation using the original game switch. This degradation will take the form of wavy lines in the pictures coming from either the video game or your antenna. Usually the problem may be sourced to improperly routed connecting wires but sometimes, changing to a completely shielded 75 Ohm switch will solve the problem.

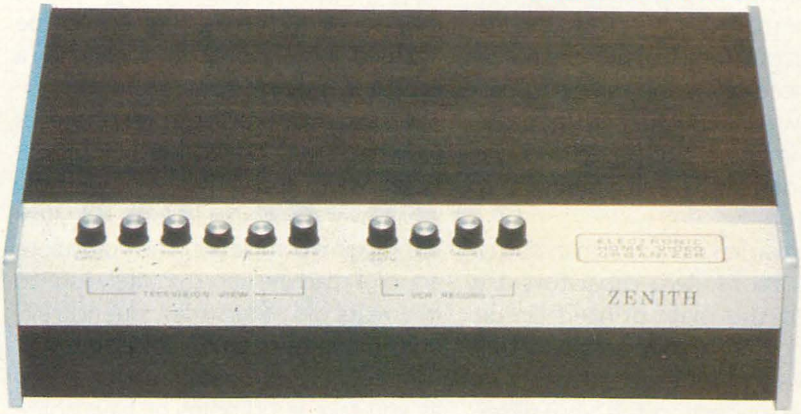
You may also use a number of these switches connected to each other to increase the number of inputs to your TV, but this approach, while workable, soon becomes complex to operate and unwieldy. Signal quality will remain good, however.

Another possible approach is that of connecting the output of your antenna or cable TV signal to your VCR and the

CABLE WORKS UNIT



ZENITH S10W/FRONT



the arm in precisely this area.

The Supercharger is a RAM cartridge. It plugs into the VCS slot and, in turn, is connected to a tape recorder. Thus, taped programs can be run, and they can take advantage of improved graphics made possible by the addition of extra screen-RAM via the Supercharger.

Repairing Atari Joysticks

Sooner or later, no matter how careful you are, an Atari will break under heavy-duty play. Before tossing it aside and replacing it with a new one, you may want to investigate the Joystick Repair Kit from Screensonics (under $6).

Are You Suffering VCS Distress?

By Henry B. Cohen

With the Atari service fee a fixed $36.50 plus shipping, the following step by step guide is offered to help solve the most common ailment of older VCS machines. The information was relayed to this writer by a service technician at Atari who must remain anonymous. Atari keeps all of its technical data confidential, and so a thorough guide to at-home repairs is not possible to prepare.

If, however, your VCS is exhibiting the following symptoms, this fix is probably for you.

Problem: After several seconds to several minutes of play all color is lost. Turning the machine off and on cures the trouble but only for a few more minutes. You may lose color, the remaining pattern is snowy or herringboned, the game is virtually impossible to play but sounds remain normal. The condition may come and go.

The solution lies in the fact that, due to FCC regulations, two capacitors are wired into the main printed circuit board. They apparently serve to limit stray television interference. If either or both of these capacitors fails, you will see the conditions described above. Simply removing the capacitors will instantly establish if they are the cause of the problem. They are not necessary for the game to work properly—only to maintain FCC radiation regulations. If your troubles clear up immediately, the capacitors are causing your problems and replacement is necessary.

Before going into repair details, the following cautions are necessary. First, never work on any piece of equipment without unplugging it from its AC power source. Second, if you are not skilled at soldering find a friend who is. This is not the time to learn a new skill or practice your technique. Last, there may be some voltage stored in the large (illustrated) power capacitor. While it probably won't harm you, keeping your fingers away from the eminating leads and circuitry is a good idea. If you inadvertently short out the capacitor, cause its leads to touch themselves, or make contact with the common ground wiring (printed onto the circuit board) you will discharge the capacitor. This will usually result in a loud crackling noise. It may sound frightening, but do not be alarmed. It is a normal condition when a capacitor is shorted out.

It is also good practice to keep notes as to what things looked like before you began your repair. Then you will know what everything should look like after the repair is completed. The illustrations are of a machine approximately four to five years old. Yours may, due to revisions made over time, look somewhat different. It really doesn't matter as long as you take good notes or have some familiarity with electronic circuits.

The parts needed for this repair are two .22 microfarad (.22 uf) capacitors rated at 100 volts. Higher voltage ratings are preferred, but not necessary. These parts may be found at any radio parts store or Radio Shack. The part number at Radio Shack is 272-1058, the cost 69¢ a piece. Do not use electrolytic capacitors for this repair.

Step 1: Remove any game cartridge and all controller and power wires from console.

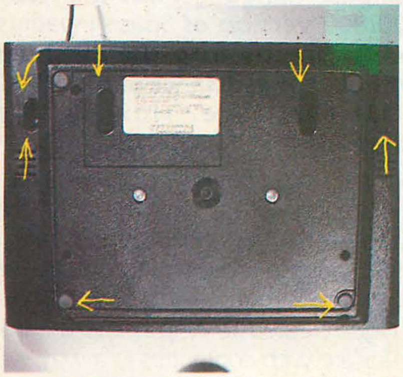
Step 2: Place unit face down and remove six phillips head screws as illustrated. Do not use any screwdriver that fits improperly or use unreasonable force. Do not loosen or remove the two silver screws located near the center of the unit.

Step 3: Turn unit face up. Ease the cover piece from the base using moderate force by lifting first the rear edge of the cover and then the front. Remove the six black rubber washers

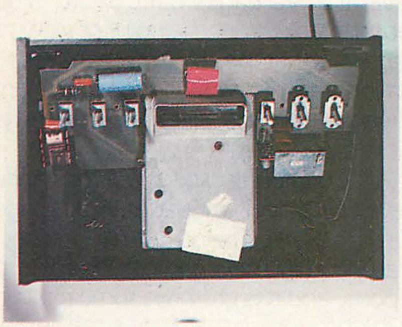
Adapting the Apple

Several devices make it much easier to game with the Apple. External connections for joysticks and paddles include the venerable E-Z Port, the Port Authority and Sirius' Joyport, which permits use for Atari-compatible controllers.

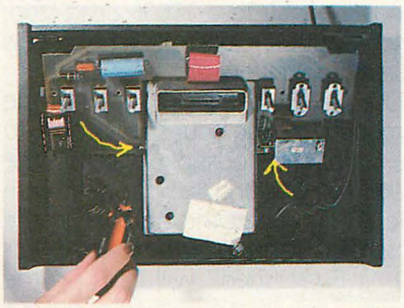
that rest on each switch shaft. Place the washers and the six mounting screws to the side.



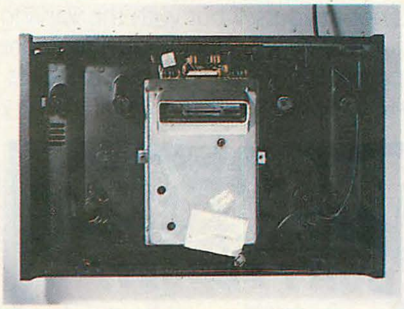
Step 4: Remove the phillips head screw on the lower right side of circuit board and lay it aside. Unplug the RCA connector on lower right side of circuit board. Gently loosen and disconnect the multi-pin ribbon connector from the console.



Step 5: Remove the circuit board. The console may be placed aside for now.

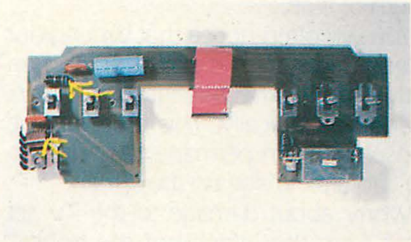


Step 6: Locate the two .22 uf capacitors on the left side of the circuit board as shown. Using a diagonal cutter (wire cutter)—not a scissors—snip the leads going to the capacitors. The unit may now be re-assembled and checked, or you may proceed to replace the capacitors without checking further.



Note: Replacement requires soldering skills. You must use a low wattage solder gun or pencil (under 30 watts) and rosin core solder. If you have little or no experience soldering find someone who does. A friend, the local TV or radio service shop can do the job in a minute or two while you wait. The charge should be nominal.

Step 7: Reassemble the unit reversing the instructions given. Note that the two longest screws are used to join the front edge of the cover piece to the base of the console. The shortest of all seven screws is used to attach the left side of the printed circuit board to the base.



Electronic Games knows that this repair will work as published. This writer had the problem with his machine and repaired it as stated. We cannot be responsible if the repair does not work for you, or if you damage the machine through carelessness etc. Do not attempt any repair on a machine under warranty as this will void the warranty.★

ANSWERS TO ELECTRONIC GAMING QUESTIONS

This column will answer any questions readers may have about the often-complex world of electronic gaming. Since this is the first issue of a brand new magazine, however, we're going to start with some of the questions we've been asked about this subject in the past. In future issues, we'll be fielding queries sent in by you readers. And don't worry about stumping your friendly old Game Doctor; If I don't know the answer, I know how to get in touch with folks who do.

And now, on to the first question!

Q: **Do videogames damage television sets?**

A: No, no, a thousand times no! All the programmable videogame and computer systems covered in **EG** use sophisticated color-shifting routines that keep any single hue or image from remaining in the same spot on your TV screen for any length of time.

You will often notice that when your videogame system is on, but not in an active mode, the background colors change periodically. This prevents the phosphors from permanently "imprinting" an after-image on the screen.

Worry about damage to the TV set dates from the infancy of the hobby. Alas, many companies that produced "hard-wired" videogames in the past were unaware of the potential difficulty. As a result, many sets wound up with a ghostly white line running down the middle of the picture tube, a memento of all-night **Pong** sessions.

But you can relax. That just isn't a problem with modern systems.

Q: **Atari's** Star Raiders **is my favorite game for the 400 computer. I'd enjoy it a lot more, though, if I could figure out how to make my spaceship dock with the Starbase for refueling. I've followed the instructions to the letter, but nothing happens. Am I doing something wrong, or is my ROM cartridge defective?**

A: Odds are that your ROM cart is in perfect working order. It's the instructions—so precise in most respects—that are a trifle out of whack. It's actually quite easy to achieve docking orbit in **Star Raiders** once you understand the procedure and get the knack.

Any confusion arises in the description of how to set the ship's velocity in normal space. Although a couple of other buttons yield an apparent speed of zero, only pushing the "0" (zero) key actually brings the craft to a 100% dead stop. Once that's clear, the rest of the process is pretty straightforward.

Use the coordinates provided by the computer to bring your ship as close to the starbase as possible. Slam on the brakes by punching "zero" on the console. Then center the starbase in the crosshairs. At this point, the magic words "Orbit Established" will flash on the screen, a tiny shuttle craft will putter out to dispense fuel, and your ship will be ready to return to the spaceways!

And if you think **Star Raiders** is fun now, wait until you try it incorporating docking!

Q: **I have problems every time I try to load a game cassette into my computer. Sometimes it runs for awhile, stops suddenly and flashes an error message. What am I doing wrong?**

A: Take heart, valiant gamer. The fault lies not in yourself but with the varying lengths of "leader" (blank tape) software suppliers use in making their cassettes. One sure way to lick this problem every time is to first run your tape through an ordinary audio cassette recorder. When you hit the tell-tale high-pitched squeal of the program's lead-in, stop the recorder. Rewind the tape a fraction of an inch by hand, reinsert it in the computer's cassette loader and try again.

DR. CURSOR SAYS—
DON'T FORGET!
ALWAYS SHUT OFF YOUR CONTROL UNIT BEFORE YOU INSERT OR REMOVE A CARTRIDGE !!

Q: **I thought all computer games on cassette were written in BASIC computer language. But the Atari 400/800 version of** Space Invaders **loads directly into the machine without the assistance of the BASIC ROM cartridge. How is this possible?**

A: Let's first correct your "basic" misconception. BASIC isn't the only language for writing computer games. BASIC is simply the most popular—at least for home use—of several languages created to help humans communicate with computers in a way we find at least semi-comprehensible.

Each type of microprocessor, however, can also "speak" another tongue, called "machine language" that is not directly understandable by people. Since **Space Invaders** is, in fact, written in machine language, no BASIC interpreter is needed to help the computer decode the message.

Incidently, machine language has several advantages over BASIC. The most notable, from the point of view of gamers, is that the computer can "read" it a lot faster. This greatly speeds up on-screen action, especially improving joystick response time.

Also, computer experts are constantly developing new languages. A language called PASCAL is being used to write several upcoming new games, according to reports, and this promises some exciting breakthroughs, particularly in the area of game graphics.

Q: *Is it possible for a videogame cartridge from one company to be used with the console of another company?* (from Chris Shreves of Gibsonville, N.C.)

A: This is the single most often-asked question we receive here at the old Doctor's office and, sad to say, the answer is always the same: No. Different systems work in entirely different ways with non-compatible microprocessors, memory, etc. Pehaps somewhere along the line we may see some form of adaptor or interface developed that would allow such interchangeability, but that's a long way off.

Q: I own an Atari 800 and would like to know if I can use a Quadrascan monitor for it. If I can, does it have to be black and white or can it be color? Also, what implications would I face (i.e., memory expansion, peripherals, cost of screen, etc.)? (from Scott Goodwin, Lakenheath AFB, England)

A: *Sorry, Scott old boy, but home computers and programmable videogames have to be specifically designed for the type of monitor on which they will appear. Systems such as the Atari, Apple II, TRS-80 Color Computer and the VIC-20 are built to interface with standard television sets, which use raster-scan technology, rather than the vector-beam type graphics employed by Quadrascan.*

Also, as you may already know, color vector-beam monitors already exist and are being used extensively in coin-op games (Sega's **Eliminator,** *Atari's* **Tempest** *and* **Space Duel,** *etc.), but their scanning technology is far removed from the raster type and is therefore incompatible with it.*

There have been rumors within the electronic games industry that someone may produce a videogame system that will come with its own vector-graphics type monitor. The only downside to this intriguing idea is that the monitors would almost certainly be black and white.

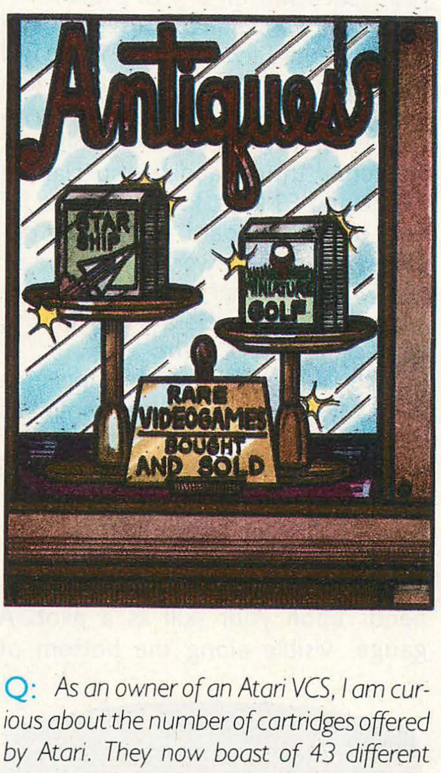
Q: My TV set has a digital channel selector. Sometimes when I switch to the "open channel" in my area, the videogame playfield comes in distorted and colorless. Other times, it's just fine. What can I do? (From Paula Watts, Shawnee, Okla.)

A: The hang-up probably comes from the lack of a manual fine-tuning knob on your set. Try this method: First tune in the channel that gives you the clearest and sharpest signal. Then set up the videogame system, insert the desired cartridge and switch on the game console. Finally, switch to the "open channel", and the automatic fine tuning should provide you with a clear, sharp picture.

Q: *Why are some programs for the Atari 400/800 computers loaded by a cartridge (i.e.,* Star Raiders, Missile Command*) while others load via the program recorder (*Space Invaders, Blackjack*)? (from* Don Sojka of Linden, N.J.)

A: Actually, the Atari Computers use *three* input modes, the third being the 810 Disk Drive, which is far speedier than the recorder in terms of load time. As to why some programs are on tape and others are on ROM, the old Doctor would have to guess that it was a matter of available time. ROM cartridges—the most familiar type of game format—can take quite a while to produce, requiring factory and production capabilities that did not exist when the 400/800 computer. Because Atari felt certain that computer users would want a version of *Space Invaders* included among the initial software releases, and because putting it on ROM cart would have taken too long, it opted to go with cassette.

By the way, since then, Atari has reissued *Space Invaders* on ROM cart.



Q: *As an owner of an Atari VCS, I am curious about the number of cartridges offered by Atari. They now boast of 43 different cartricges, but at least three are not on the list:* Star Ship, Space War *and* Miniature Golf. *Are these no longer available or are they just not mentioned in this catalog?* (from Greg Hayes of Arlington, Texas)

A: The games you mentioned have, alas, been pruned from the VCS line, along with *Surround* and *Slot Machine*. Although these titles, especially *Miniature Golf* and *Surround*, were not without virtues, they didn't sell well enough to merit continued inclusion in the Atari library—especially with so many new games turning up every month. So rather than choke its catalog with slow moving titles, Atari decided to regularly evaluate each of its cartridges to insure that it is still of interest to the gaming public.

The result of this videogame gardening is the first group of "collector's item" videogames. These games may soon become sought-after items of electronic gaming antiquity. So remember, while some stores may hve copies of these titles in stock, they won't have them for long.

Q: *I would very much appreciate it if you could give me some information on the Mattel Intellivision, its games and operations. I am especially interested in finding out whether it, and its game cartridges, are available for the so-called PAL system televisions, which we use in Europe.*

Also, have any other systems been adapted for the PAL system. (from Bert de Vries of Amsterdam, Holland)

A: First off, Bert, let's explain to our North American readers exactly what the "PAL" system is. The television image we see on our TV monitors are composed of "lines of resolution". The greater the number of lines, the greater the clarity of the image. European televisions are designed to receive transmission broadcasts comprised of a greater number of lines of resolution than American sets. It is therefore neccessary for special modifications to be made in any standard U.S. videogame system before it can be played on a European boob tube.

At press time, both the Odyssey^2 (known in the Continent as the Phillips 2000) and Atari VCS are being manufactured for PAL systems and are being sold extensively throughout Europe. It seems only a matter of time, however—perhaps as you read this—before Intellivision joins the programmable parade "over there".

Q: *I'm a professional computer programmer who's also a big gamer and a fan of your magazine. I'm very happy with my job, but I would love to do some "freelance" programming in the*

Continued on page 138

Continued from page 119

in its belly. This accomplished, the playfield changes background colors and begins the second scenario, which only differs from the first in difficulty.

The graphics are absolutely top-notch, perhaps the finest recreation of the sort of coin-op which inspired **Airstrike** in the first place. The audio mixes a potpourri of sounds, each representing a different visual element, from the hiss of the asteroids to the whoosh of a launching missile.

With *Airstrike*, English Software shows it can produce coin-op look-alikes with the best of them. A new game, however, with a more original play concept would establish this company as one of the best software producers around.

(Bill Kunkel)

JUPITER LANDER

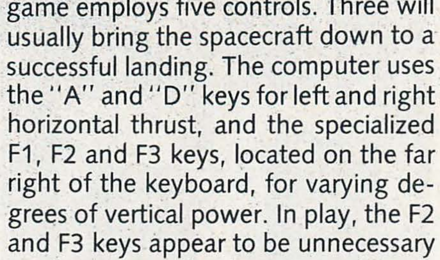
Commodore/VIC-20/ROM cartridge

Few action games adapt well to keyboard control. Quick reflexes and immediate response are usually better handled by joysticks or paddles. Because of this, it was both a surprise and a pleasure to find an action-oriented simulation that actually benefits from using the keyboard rather than the more familiar type controllers. **Jupiter Lander** is a high-resolution, full-color "kissin cousin" to the familiar arcade **Lunar Landing.**

The object of the game is to softland your spacecraft on one of three landing sites. To achieve this end, the game employs five controls. Three will usually bring the spacecraft down to a successful landing. The computer uses the "A" and "D" keys for left and right horizontal thrust, and the specialized F1, F2 and F3 keys, located on the far right of the keyboard, for varying degrees of vertical power. In play, the F2 and F3 keys appear to be unnecessary as their thrust levels are too low to appreciably affect flight.

Each of the landing sites applies a point value multiplier to the amount of fuel consumed in making a successful landing. The easiest site is marked 2X, the middle range of difficulty is valued at 5X and the most difficult area is 10X.

Fuel consumed during a landing depends upon your skill as a pilot. A gauge, visible along the bottom of the playfield, informs you of on-board fuel conditions. Unlike the arcade versions of this simulation, no abort button is provided. Once committed to a landing, you're on your own.



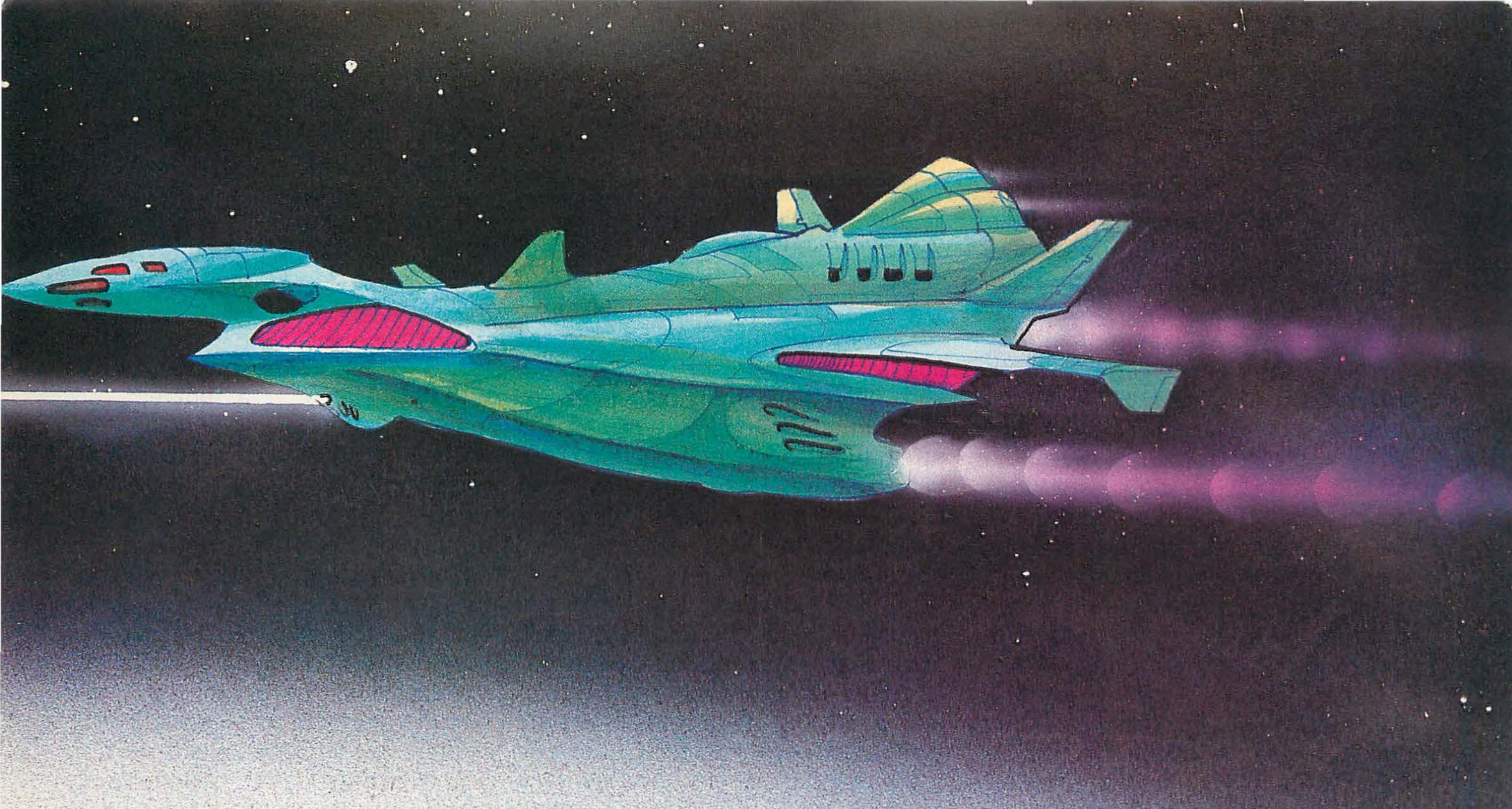
JUPITER LANDING

As with most VIC-20 ROM cartridge games, a demo/instruction mode is built into the system. It's a clever touch that lends a real arcade feeling to the games. To begin play, simply touch the F1 key and, after a short fanfare and beeping countdown, your spacecraft begins to descend from the upper left corner of the screen to the lower right. Jupiter looms below, a bright orange planet with three plainly visible landing sites carved into its surface.

Space cowards and novices should try for the central (2X) target zone, landing atop a flattened mountain, while veterans will head for the farthest and most difficult site. This is located on the far right of the screen and will take you into a cavern deep within the planet.

No matter which landing site you choose, pay strict attention to the meters per second (M/S) gauge located on the far right of the screen. This vertical column contains a small shaded area at its midpoint which signifies the proper descent rate. A black horizontal bar must be kept in this area when actual touchdown occurs. If the descent rate is above or below the proper level, no points are awarded for the landing and the spacecraft explodes.

Points are figured, after a successful soft landing by taking the amount of fuel consumed, factoring it by the po-



sition of the meters-per-second gauge and multiplying it by the difficulty of the landing site. It sounds more complicated than it is. Simply keep the M/S gauge as close to the top of the shaded area as possible for the most points. Depending upon the number of points awarded, fuel is allocated back to the spacecraft. The more points, the more landings that can be made.

Remember, gravity brings the spacecraft down, but finesse on the F1 thruster keeps the spacecraft from crashing. It takes a practiced, light and repetitive touch on the thrusters to keep things under control.

(Henry Cohen)

TUMBLE BUGS

Datasoft/Atari 400 & 800, Apple II/48K disk

Originally entitled *Dung Beetles*, **Tumble Bugs** has been released for the two most popular gaming microcomputers by a company heretofore most famous as a publisher of adventure games. It is a maze game that embodies something of the flavor of **Pac-Man**, but it also possesses an interesting twist.

As with many programs available for both the Atari and Apple computers, *Tumble Bugs* seems a bit better on the former machines than on the latter. The Atari's superior sound capabilities and high quality joystick give it a little edge over the Apple II version, though that one is also excellent.

The opening screen in *Tumble Bugs* is riveting. A large beetle stares directly at the player, positively daring him or her to begin the attack. The computer then draws a large maze which must be memorized by the gamer during the brief period in which it is visible. When the game actually starts, only a small portion of the labyrinth can be seen at any one time. The program gives the player a magnified view of the hunk of maze currently occupied, while the rest stays surounded in mystery.

As in *Pac-Man* and other maze-chases, *Tumble Bugs* requires the arcader to zip through the corridors and eat all the dots. Little aliens travel through the maze, too, buy they aren't very smart and can usually be avoided, at least in the beginning. The aliens get tougher to avoid, however, and they eventually pounce on the player with a cry of "gotcha!

There's tremendous pressure to keep gobbling those dots, rather than navigating the maze in a pure contest of evade and capture. The action is timed, and failure to keep munching will cause your score to decrease. *Tumble Bug's* graphics and sound represent first class programming skill. The screen layouts are attractively done and pleasingly colored. The implementation of the magnifying glass effect is especially impressive. Even the on-screen scoreboard is shown in enlarged form when the glass passes over it in the course of highlighting various sections of the playfield itself.

Bob Bishop has further enhanced his budding reputation as a member of the game programming elite with this fine effort. Highly recommended.

(Leigh Goldstein)

POOL 400

IDSI/Atari 400 & 800/ROM cartridge

Innovative design has made quite a reputation for itself among Apple II-owning gamers with its string of successful disks for that system. Now the company has enlarged its electronic pool hall to provide sufficient room for Atari computerists. **Pool 400** packs much of the detail of IDSI's *Pool 1.5* into an easy-to-use ROM cartridge for the Atari microcomputers.

The most exciting feature of this generally well-executed game is the "instant replay". When you send the cue ball into the side pocket with this game, you get a chance to try the whole shot over again. Too bad real-life pool sharks aren't quite that amiable about such things.

Pool 400 will be especially welcomed by those who don't have lightning reflexes. Good strategy and a sharp eye for geometry count far more heavily.

(Steve Davidson)

Continued from page 35

four crewmen, available for action one at a time. A bonus man is earned when the scoreboard shows more than 20,000 points have been scored. There is an unlimited amount of ammunition in the disrupter rifle. That's a lucky thing for the spaceman, since there is no shortage of beasts hoping to fry or decapitate him.

The *Space Cavern* game cartridge includes 48 variations. Half of them challenge the gamer with two flying electrosauri, while the rest present an attack group consisting of four of these beasts. The latter should really be reserved for teaching people the game, because the action is much more exciting when there are four creatures weaving back and forth overhead, all of them firing bolts .

Other options govern whether Marsupods will be rushing at the crewman from the playfield edges, the opportunity to begin play at advanced skill levels and the choice of having the electrosauri fire their blasts straight or in a random direction.

Although the graphics and sounds are quite decent overall, some specific effects are better than others. The best visual sequence occurs when the electrosauri zap a spaceman with one of their blasts. The victim sizzles in a most convincing fashion before turning into a skeleton right inside his suit. On the other hand, the monsters themselves may not be drawn to your taste, especially if you don't like your menaces to look too cartoony.

YARS' REVENGE

Atari/VCS

A combination of familiar play elements and somewhat revolutionary packaging concepts combine to make **Yars' Revenge** a potential blockbuster that misses greatness by an eyelash.

It's a well-known fact that most arcaders simply plow into new games without bothering to read the instructions or supplemental material. The average gamer plays until he or she gets stuck, tries a dozen different approaches to solving the dilemma and, only then, grudgingly peeks at the game's documentation. All too often, the arcader discovers that those pink creatures he's been blowing to bits are actually allies who are supposed to be rescued, not obliterated.

In *Yars' Revenge* not only the instructions, but the excellent comic book that comes enclosed with the cartridge should definitely be read before playing. Produced in a style reminiscent of *Heavy Metal* magazine, the graphic story recounts the saga of the Yars, peace-loving insectoid creatures who evolved from a few Earth-houseflies after accidentally stowing away on a space mission. The story goes on to tell of a society built by the cosmic bugs and how their serene life-style was abruptly shattered by the coming of the villainous, warlike Qotile. These space bullies kicked the wings off the unprepared Yars, who only began constructing a mighty weapon dubbed the Zorlon Cannon (after the name of the Yars' home planet), at the last instant. Armed only with a half-built cannon and a supply of energy missiles, the Yars send out their greatest warrior to take revenge on the bloodthirsty Qotile.

The playfield configuration consists of the Qotile, protected by a pair of alternating shield-walls comprised of blockish cells. The initial shield is rectangular and static, but the secondary one is a revolving rectangle. The Yar appears on the left of the screen, just behind the neutral zone, a vari-colored column that extends the height of the playfield. Once within this zone, the Yars' and Qotile weapons—except for the swirls, which will be covered in a moment—are rendered harmless.

The Yar must destroy the Qotile shield, or at least the portion directly in front of the Qotile without being destroyed by either the enemy's destroyer missiles, which move slowly through space but pursue their quarry with dogged determination, or the truly dangerous swirls. Periodically, the Qotile will transform itself into a whirling disc of death, flinging itself at tremendous velocity toward the Yar. The Yar must, after clearing away sufficient shielding, touch the Qotile in order to summon up the Zorlon Cannon, which will always appear directly parallel to the Yar on the extreme left of the screen. The Yar must then position itself so that when the cannon is fired, the Qotile will be destroyed, and the Yar, long out of the way.

The comic book intro gives this game a strong context, making the human player a character in a science fiction space opera, while the play mechanic, somewhat like **Star Castle** is easy to learn. Sound is excellent and the graphics are quite acceptable—with little blinking of on-screen objects.

The big question, then, is why the game isn't quite as exciting as it could be. The game has only one objective that must be repeated indefinitely. Today's players have grown used to progressive play, new challenges and changing graphics. In this regard, *Yars'* is far too static.

Understand, *Yars' Revenge* is not a bad game by any means, and many gamers are sure to greatly enjoy it, especially at the higher difficulty settings. (Try one of the "Ultimate Yars" options for a real challenge).

THE EMPIRE STRIKES BACK

Parker Brothers/Atari VCS

Let's face it: Starting with a title like this, it would take a tremendous effort to end up with anything *less* than a top selling videogame. Call it integrity.

The Empire Strikes Back isn't flawless, but the company's title is a scrolling shoot-out that effectively blends graphics and sounds inspired by the movie with dynamic on-screen action.

As a good tie-in should be, *Empire* is solidly based on the George Lukas' science fantasy movie. The arcader takes control of Luke Skywalker's snow speeder in a battle to the death against a column of Imperial Walkers (or AT-ATs—All Terrain Attack Transport—as they are also called).

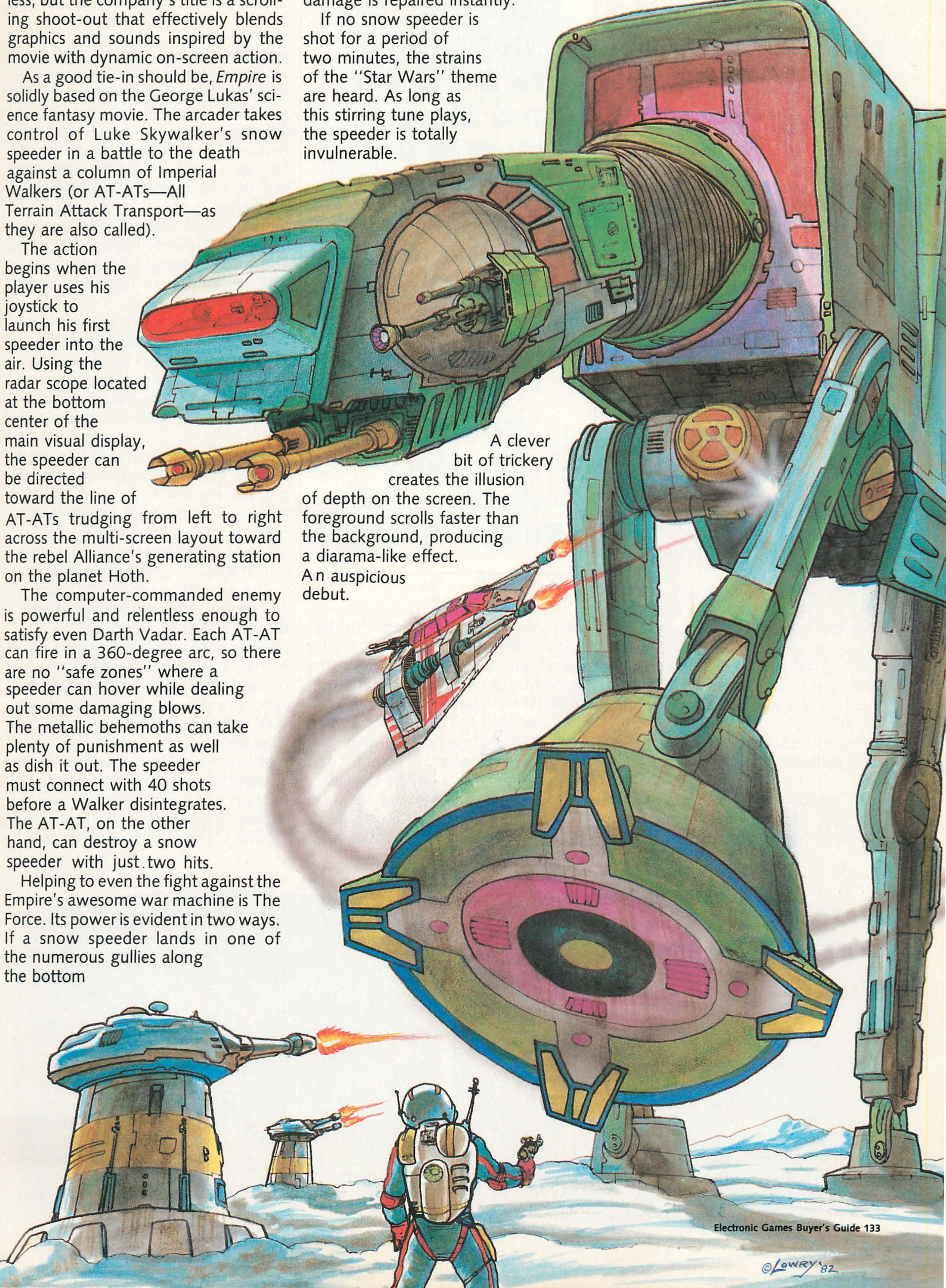
The action begins when the player uses his joystick to launch his first speeder into the air. Using the radar scope located at the bottom center of the main visual display, the speeder can be directed toward the line of AT-ATs trudging from left to right across the multi-screen layout toward the rebel Alliance's generating station on the planet Hoth.

The computer-commanded enemy is powerful and relentless enough to satisfy even Darth Vadar. Each AT-AT can fire in a 360-degree arc, so there are no "safe zones" where a speeder can hover while dealing out some damaging blows. The metallic behemoths can take plenty of punishment as well as dish it out. The speeder must connect with 40 shots before a Walker disintegrates. The AT-AT, on the other hand, can destroy a snow speeder with just two hits.

Helping to even the fight against the Empire's awesome war machine is The Force. Its power is evident in two ways. If a snow speeder lands in one of the numerous gullies along the bottom of the playfield after taking one hit, all damage is repaired instantly.

If no snow speeder is shot for a period of two minutes, the strains of the "Star Wars" theme are heard. As long as this stirring tune plays, the speeder is totally invulnerable.

A clever bit of trickery creates the illusion of depth on the screen. The foreground scrolls faster than the background, producing a diarama-like effect. An auspicious debut.



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ROBOTRON

Williams

Robotron, the Hot Sequel to Defender and Stargate by Williams, Involves the Arcader in a Do-or-Die Situation—Are You Quick Enough to Blast Your Way to Glory Against the Enemy Horde?

As the technology involved in the creation of sophisticated coin-op videogames takes galaxy-spanning leaps forward, the overall result is better games all around. Even small, independent manufacturers who do their own Research and Development (R&D) can produce audio and visual effects that virtually sunburn the eyeballs and wiggle the ears of arcaders everywhere. So just imagine what the major companies are capable of turning out.

Imagine no longer. Take a stroll to the nearest game parlor, and let the old retinas rest on a creation such as Williams' incredible **Robotron.** The third in the videogaming saga begun with **Defender** and continued by **Stargate,** *Robotron* is a great departure from the preceding titles in terms of play concept and control mechanism. The horizontally-scrolling landscape and laser-firing command ship are no more, also among the missing—and let's hear a cheer from all fumble-fingered arcaders on this one—are the bevy of buttons controlling everything from movement to inviso-rays.

Robotron is a very simple game that faithfully follows the first law of coin-ops: easy to play, difficult to master. Most players will, at least, experience the satisfaction of dispatching the first round of baddies before the higher-level menaces grind them into oblivion.

As mentioned, *Robotron* continues the saga begun with *Defender* and *Stargate.* The commander of the last defensive spacecraft on this beleaguered planet is now out on his own, surrounded on all sides, on the bombed-out world's surface. The defender is armed only with an anti-robot laser gun, but this handy-dandy item will destroy everything but the Hulks—well described behemoths that can only be held at bay by the laser.

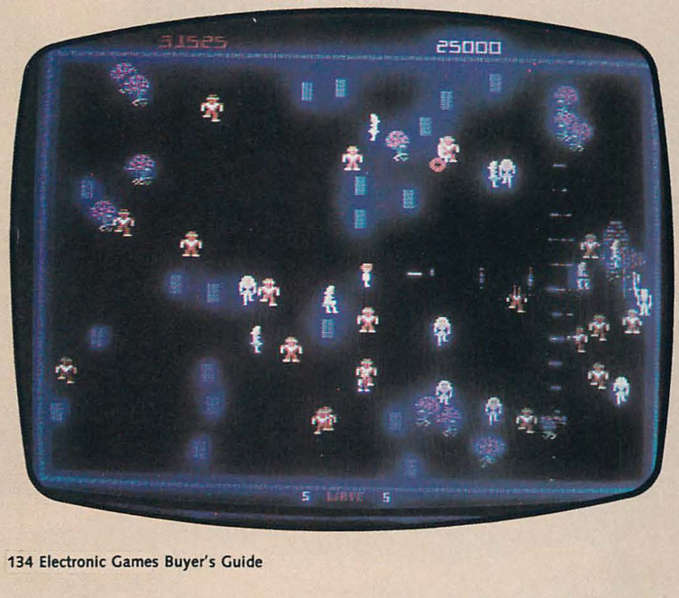
Some gamers' immediate ink-blot-type reaction to *Robotron* is that it is sort of like **Berzerk,** but without a maze. In fact, however, it's a full-scale video melee of the most awesome dimensions imaginable. Not only is the screen filled with monsters, but there are men, women and children to be rescued (for bonus points). These "clones" are totally defenseless and can be placed under the defender's protective custody by passing over them. The first human rescued nets the player 1,000 points, the second 2,000, and so on right up to the fifth, after which each human rescued is worth 5,000 pointeroonies.

In fact, there are more characters on-screen, moving independently and simultaneously, than ever seen in any other videogame prior to this groundbreaker. The playfield is a virtual swarm of multi-colored, swiftly converging characters, both hostile and dependent. The ability to manipulate vast numbers of on-screen graphic elements is called "screen RAM". This is the Random Access Memory the game can allot to that function. Boy, does *Robotron* have screen RAM coming out of its ears!

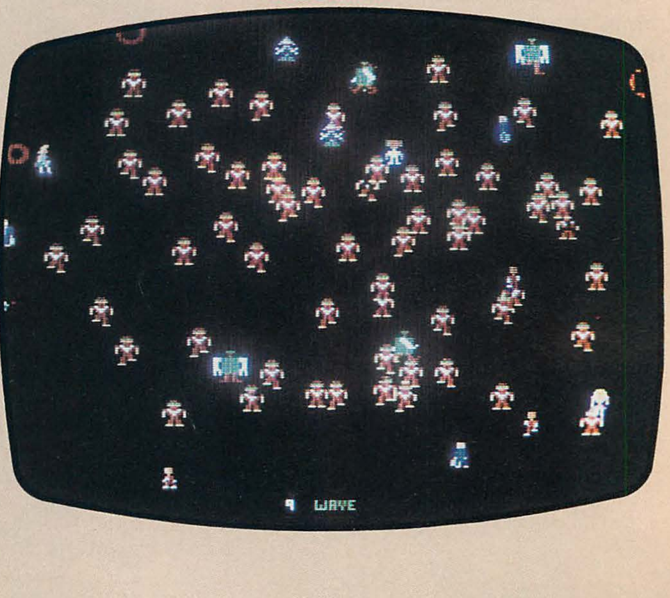
The incredible gridlock of humans and monstrosities makes the center of the screen just about the game's most perilous position. Collect/protect what humans can be saved and get into one of the field's four corners in order to keep the defense limited to merely (ha!) two sides. Of course, by the fifth level and up, the speed with which the nasties are rushing at you becomes so intense that even this tactic may not be enough to save you, much less the hapless charges left in your care.

The enemies include "grunts"

ROBOTRON



ROBOTRON



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which are the most easily dispatched of the enemy hordes. One laser blast, and this species of cannon-fodder is gone like a cool breeze. The "Hulks", as previously mentioned, are impervious to the defender's weapon, but can be held at bay, or derailed. "Spheroids" are harmless looking, donut-like objects. They are, in fact, anything *but* harmless. They are actually the alien mothership which, if left undestroyed, will spit out tiny hatchlings that rapidly evolve into "enforcers", beings capable of launching killer "sparks". "Tanks" are tread-driven robots which fire rebounding shells, while electrodes are stationary menaces that serve as land mines. Fortunately, the grunts, not being high-powered thinkers, are just as likely to wander into them.

In every fifth wave, the player must face the "Brain", the game's most formidable adversary. It can destroy either by contact or by launching a cruise missile. The Brain is especially fond of destroying humans.

Robotron's high-powered excitement is aided immeasurably by its double-joystick control scheme. The left joystick dictates the defender's on-screen motion while the right stick can fire the laser instantaneously in any of eight directions. This allows for machine-gun-like action in a game that hardly lacks for excitement in any case. Pick hit of the month!

LOCO MOTION

Centuri

One of the more off-beat, but nonetheless interesting games to appear in some while is Centuri's latest, **Loco Motion.** This machine lets gamers play choo-choo train engineer on a brightly colored grid-like playfield to the tune of "I've Been Working on the Railroad".

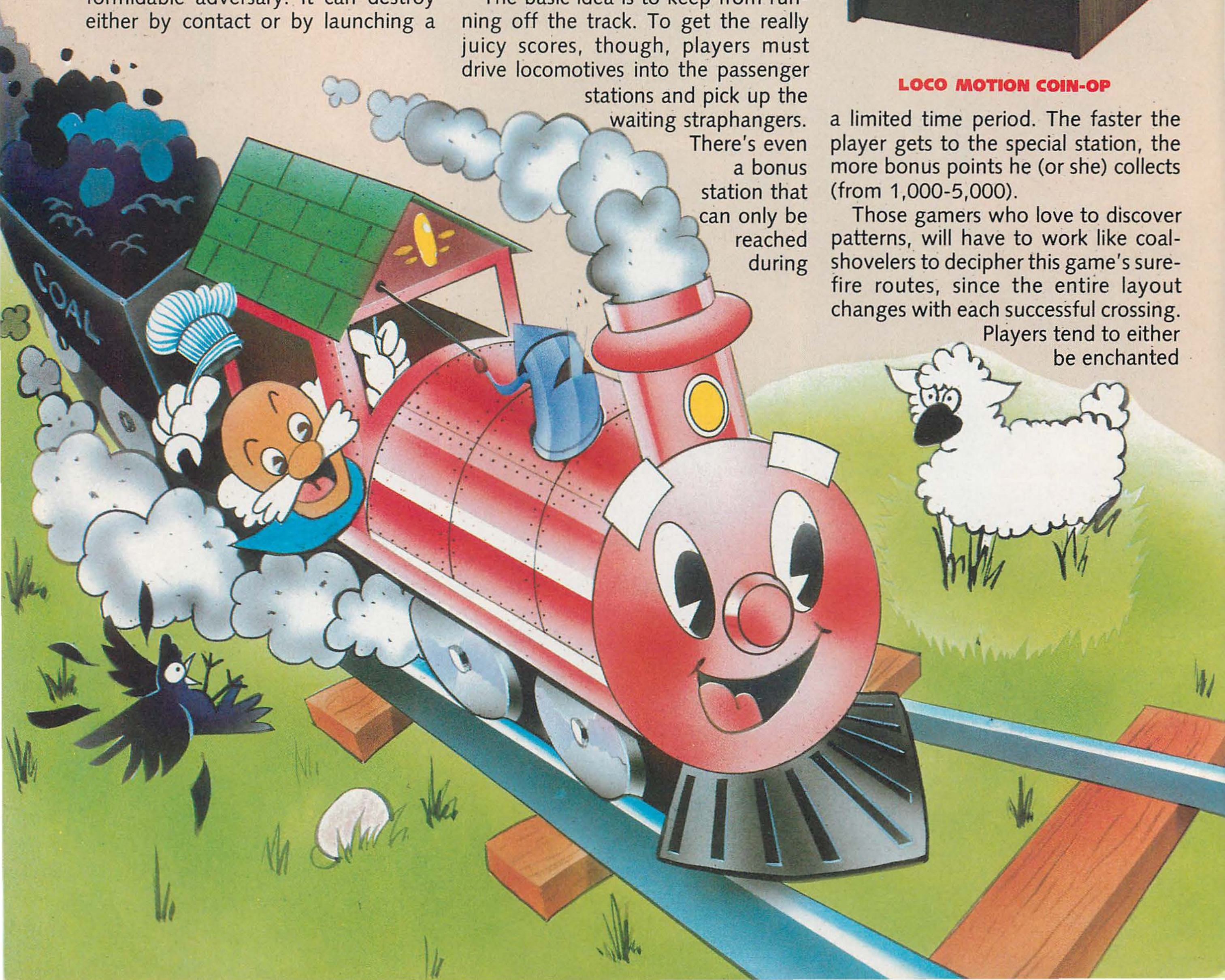
Arcaders manipulate a four-way joystick and a speed button to control the direction and acceleration of their train as it rumbles down the distinctively-colored yellow track.

The basic idea is to keep from running off the track. To get the really juicy scores, though, players must drive locomotives into the passenger stations and pick up the waiting straphangers. There's even a bonus station that can only be reached during a limited time period. The faster the player gets to the special station, the more bonus points he (or she) collects (from 1,000-5,000).

centuri
LOCO MOTION

LOCO MOTION COIN-OP

Those gamers who love to discover patterns, will have to work like coal-shovelers to decipher this game's sure-fire routes, since the entire layout changes with each successful crossing. Players tend to either be enchanted

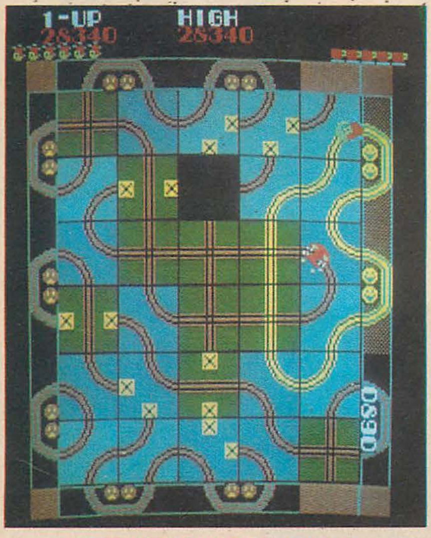


or indifferent to this highly unusual game, which challenges tried-and-true arcading skills within a totally novel context. For originality alone, *Loco Motion* should have a few tokens inserted by any player. Stoke her up and see how she runs. Who knows, you may be the first electronic Casey Jones.

This is one game, however, that won't be instantly mastered, mainly because of its unique, blocked-out grid playfield. The screen is bordered on all sides by sections of curved track that serve as the pickup points for passengers. These loops must be reached by paying constant attention to the playfield scenario.

As previously mentioned, the key here is to "follow the yellow brick road", that is, stay on the bright yellow tracks and soon the old chugger will be packed to the rafters with passengers.

Be careful when speeding up. While you do want to reach the bonus station and grab those big points, it will be much more difficult to maneuver your locomotive at super-speeds. At the novice stage of familiarity with *Loco Motion*, stay at the moderate speeds and learn the mechanics of steering and staying on course.



LOCO MOTION PLAYFIELD

So remember, don't be put off by the offbeat playfield. Just take her for a trial run.

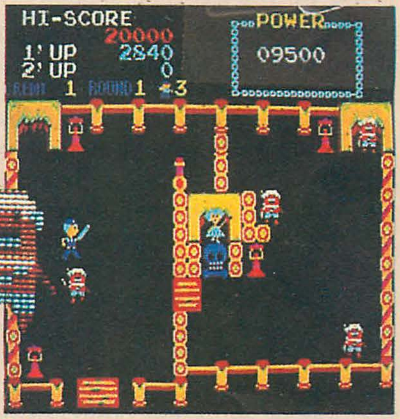
FANTASY

Rock-Ola

Here's the first big league entry in the videogame sweepstakes from juke box manufacturer-turned-coin-op-videogame maker, Rock-Ola, and it's an amazing visual treat! Using at least ten different playfields in a multi-phase adventure that has real depth.

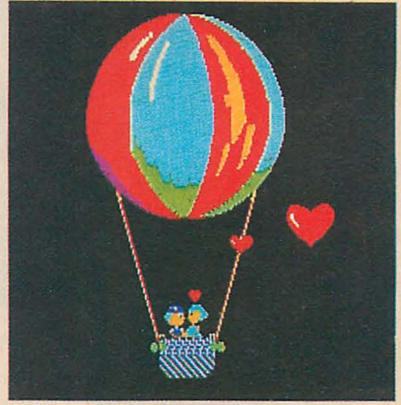
The contest begins when your sweetie, a cutie called 'Cheri', is kidnapped from right under your nose, on your very own Fantasy Island, by a gang of pirates. You instantly take up the chase in a hot air balloon, avoiding, it is devoutly hoped, the buccaneers' cannon fire while attempting to land on their ship's deck. This accomplished, you engage the pirates in a series of combats, wiping them out either via sword thrust or by virtue of leading them in front of a cannon while it happens to be going off.

Wipe out the brigands and—wouldn't you know it?—a big red bird comes and carries off your lady. Back on the trail, you face gorillas, baboons, foxes, tigers, hostile jungle tribes and a host of adversaries. Whip *these* characters and a helicopter whisks Cheri off screen. Back in your trusty hot-air balloon, you give rousing chase over open sea, engaging a squadron of armed helicopters to keep from getting bored. Incredibly, you wind up over London Bridge, which has inexplicably mounted a cannon in its middle and is blasting away like crazy. You must lure the choppers into this cannonade, at which point the bridge will open and you drift off together into the sunset, Cheri cooing, "I love you."



Take a Fantasy multi-adventure courtesy of Rockola.

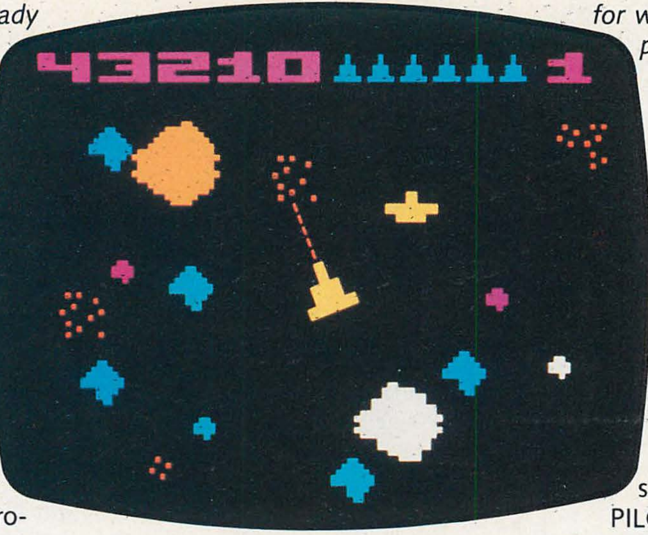
If you can still gut it out, you can start all over at this point, but without any discernible increase in difficulty. It's really quite charming. A whimsical near-classic, in fact. Check it out.



Fantasy starts out, apropos, on Fantasy Island, and ends in a ballon

Continued from page 129

videogame market. I have already developed a couple of games at work and now that I'm buying an Atari 800, I plan to be creating many more. My problem is that I have nowhere to send my work, and I was wondering if you could help. (from John Zakour, Geneva, N.Y.)



A: A quick skim through the computer magazines should reveal to you dozens of software houses eager to buy good game programs. Adventure, International, for example, has been soliciting programs for the last several years.

Most computer software vendors are of one of two types. Some, like On-Line, do all their work in-house, with programmers on hand at all times. Others act more as publishers, getting in programs over the transom, much as would a book publisher, selecting the best material and then handling the packaging, distribution, etc.

As a last thought, you should contact the Atari Program Exchange (APEX) which serves a similar clearing-house function and distributes games and other programs to all other 400/800 owners.

Q: *How come on the Atari VCS the full score on certain cartridges is not shown? On* **Space Invaders,** *for example, the score goes from 9,999 to 0000, which makes keeping track of my score very difficult. (from Scott Wagner, Hazlet, N.J.)*

A: When a machine's digit counter has reached the point where another space is needed to update the score, it returns to zero. This is called a "rollover", and good players will even rollover the coin-op games. This is simply a matter of how many digit spaces the game program has —once the limit is exceeded, we start all over again.

Q: *I recently purchased an Atari 400, for which I've found several game program listings in various magazines. I'm not much of a programmer yet and I have a lot of trouble converting them to Atari BASIC. Any suggestions? (from Jeff Aiuto, Metuchen, N.J.)*

A: They may call it BASIC, but this is a far cry from an easy computer language. Moreover, it is virtually useless for game programming since it offers the designer little in terms of play speed. My suggestion would be to try PILOT (Programmed Instructional Learning Or Teaching) instead of BASIC. This is a language designed for schoolchildren, and even a novice programmer will be turning out fantastic game programs in no time at all.

Otherwise, there are several manuals available on BASIC, from both Atari and independent sources that can help you muddle through.

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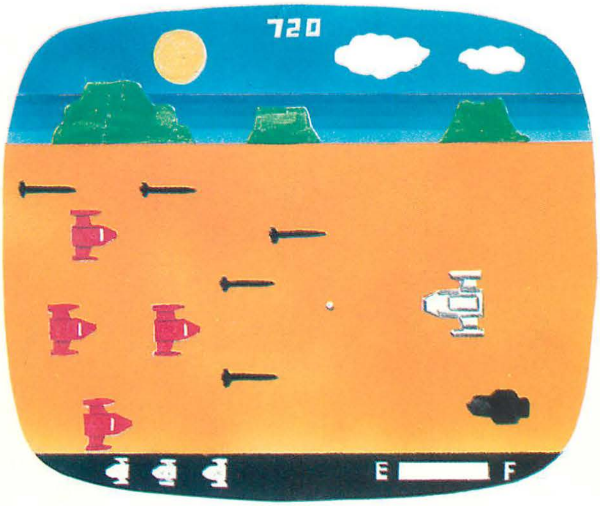

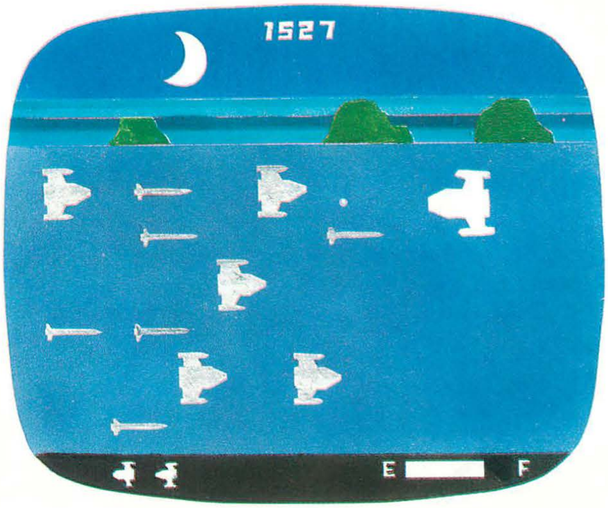

You're one of the best fighter pilots in the galaxy, but your mission is awesome: Repel all evil forces and destroy them before they destroy you. As you guide your ship expertly across the colorful landscape, you must dodge and shoot down the lethal missiles bent on your destruction. You must also destroy the menacing mother ship. And that's not all. You must summon up all your skill to rescue downed pilots, and yet still must land your ship periodically for refueling.

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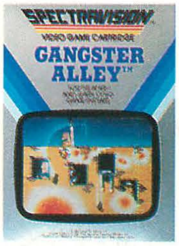
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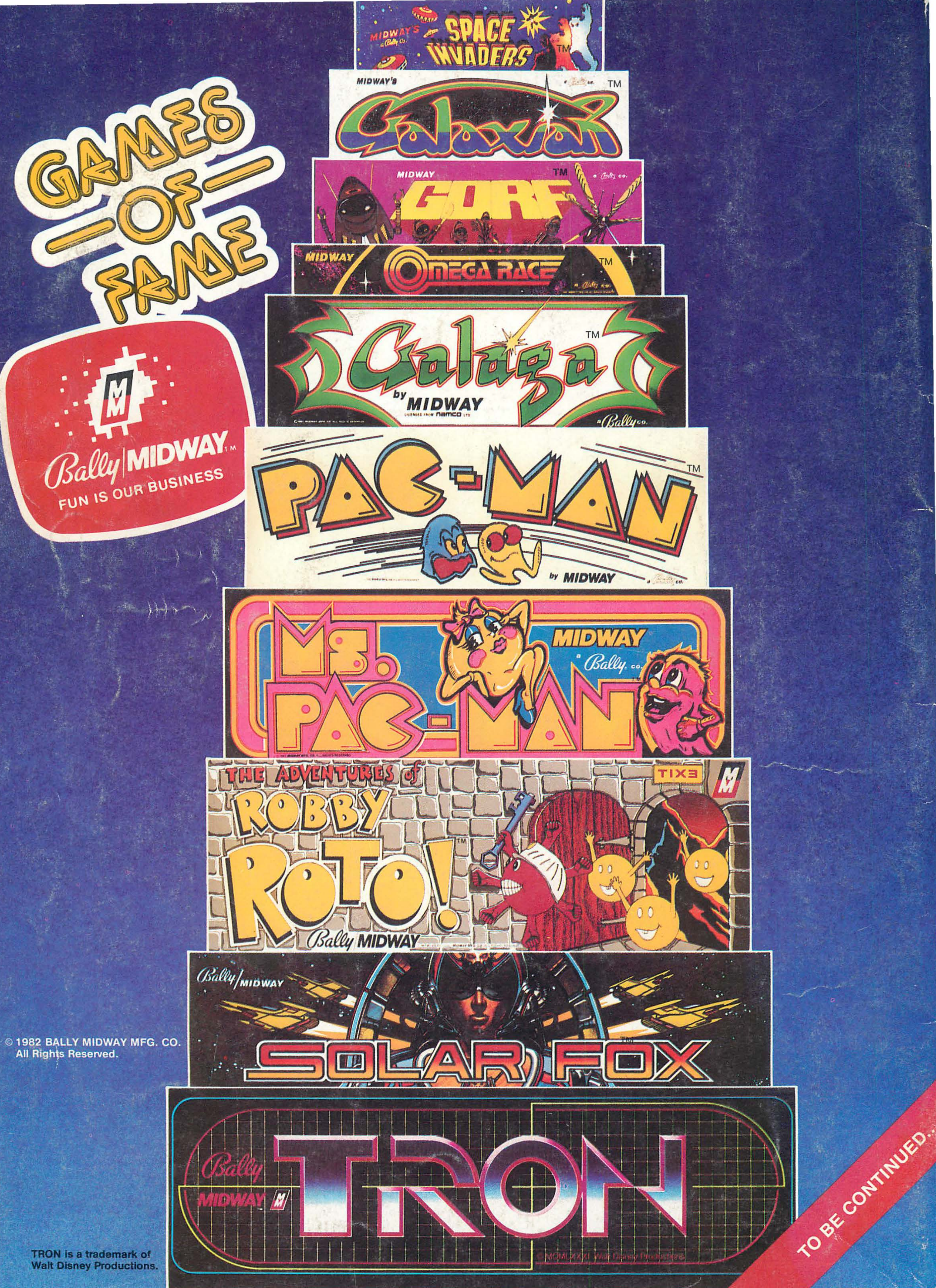
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